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Children's attributions of their severely mentally ill parent's symptomatic behavior : a retrospective study/

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CHILDREN'S ATTRIBUTIONS OF THEIR SEVERELY MENTALLY ILL PARENT'S SYMPTOMATIC BEHAVIOR: A RETROSPECTIVE STUDY

A Dissertation Presented

by

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ABSTRACT

CHILDREN'S ATTRIBUTIONS OF THEIR SEVERELY MENTALLY ILL PARENT'S SYMPTOMATIC BEHAVIOR: A RETROSPECTIVE STUDY

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This dissertation study examined the causal attributions made by 30 adult children for their severely mentally ill parent's symptomatic behaviors. A retrospective methodology was used in order to explore the development of attributions from their first realization that their parent was behaving in a problematic manner to the present time. This study also explored the associations between attributions and participants' levels of coping and resiliency, as defined by their present functioning.

The results of this study lend support to the use of an attributional framework in the study of children of the mentally ill. The data gathered using the Adult Children of the Mentally Ill-Attribution Scale (ACMI-AS) indicated reasonable internal consistency and expected intercorrelations of the attribution stems. A factor analysis of participants' responses to the ACMI-AS revealed three factors, including Internal to Self, Internal to Parent and Predictability.

The data suggested that participants' attributions significantly changed from their initial realization of parental symptomatic behavior to the present time. The analysis indicated that maturity was not wholly responsible for the change in attributions. Rather, the subjective amount of information concerning mental illness as well as extra-familial support were significant contributing factors. The analyses between attributions and coping as well as between attributions and resiliency suggested a relationship between these variables. The data further suggested that attributions for parental control of the symptomatic behavior or personal control by the child were associated with increased psychopathology and lower self-esteem and self-efficacy in respondents. Attributions that highlighted predictability, external causation, and biological causation were associated with fewer somatic complaints and increased social self-efficacy.

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INTRODUCTION

"You walked on glass and kept a lot from her. You tried to control her environment. . . . You didn't have your own life."

"It was like walking on egg shells. The golden rule [was] be calm and don't tell anyone."

"I just realized I had to do everything she could not do, which was everything. As I got older I remember when she was chasing me with a knife. I said, "You can't kill me, you need me."

The above statements, offered by participants in this dissertation study, provide a glimmer of what life is often like for a child growing up with a severely mentally ill parent. Most of the participants described how their lives were strongly impacted by their mentally ill parent, many stating they felt like they had to be the adult in their relationship with their parent. The fragility of home life was reflected in statements such as those above. Participants often spoke of "walking on tip-toes" or "walking on glass" as a metaphor for what life was like. Many also highlighted their sense of isolation in trying to cope with their mentally ill parent, often being told "not [to] tell anyone." Fortunately, 30 individuals who grew up with a severely mentally ill parent chose to participate in this study. Nearly each one stated that he or she decided to participate in hopes of helping other children who face a similar situation of contending with a mentally ill mother or father. A review of the literature revealed very few studies focusing on the child's perspective of life with a mentally ill parent. This study begins to bridge this gap.

Purpose of the Study

The plight of children with severely mentally ill parents has long been a concern within the mental health field. Initially the focus was on the prevalence of mental illness among the offspring of the mentally ill. Research interests then broadened to establish the psychosocial impact of being raised by a mentally ill parent. As the literature expanded, researchers began to consider factors that might mitigate any negative sequelae of growing up with a mentally ill parent, and began to study the "resilient" child. Interestingly, the "resilient" child appeared to emerge from horrific childhoods unscathed and highly functioning.

A great deal of the research concerning children of the mentally ill has been conducted by interviewing parents and teachers. Much of the focus has been on assessing the children's level of behavioral problems. However, very little attention had been paid to the children's own descriptions of their home environment. The present study was designed to expand our understanding of the experiences of growing up with a severely mentally ill parent from the child's point of view. Specifically addressed are the causal attributions children make for their mentally ill parent's symptomatic behavior and the association between those attributions and resiliency.

Life with a Mentally Ill Family Member

We know from the early work of Yarrow, Schwartz, Murphy, and Deasy (1955) how confusing mental illness can be for the spouses of the mentally ill. Similar findings have been reported more recently by Medvene and Krauss (1989) and Robinson (1996); however, few researchers have asked children to describe growing up with a mentally ill parent (Marsh et al., 1993). Bleuler (1974) used his years of work with the mentally ill to describe the level of chaos and despair often associated with growing up with a mentally ill parent. The fear and unpredictability associated with mental illness has been described by several authors. As noted above, many participants within this dissertation study described a palpable level of worry in their statements.

Searching for an Explanation of Symptomatic Behavior

While very little work has been done concerning how children of the mentally ill make sense or explain their parent's behaviors, it is reasonable to believe and natural to expect that they will search for such an explanation (Heider, 1958). The literature on the children of the mentally ill suggests there may be certain ways of thinking about the parents' symptomatic behaviors that are healthier than others (Beardslee & Podorefsky, 1988). An attributional framework provides a system for classifying these causal beliefs. Additionally, the substantial literature concerning causal attributions suggests links to emotion, coping and relationships. The present research is intended to bring together the literature on the children of the mentally ill and attribution theory in an effort to improve our understanding about the beliefs children have concerning their parents' symptomatic behavior and resiliency. This retrospective study utilizes an attributional framework in evaluating the causal beliefs of 30 adult children of the mentally ill.

Organization of the Study

This dissertation is divided into four additional chapters. The next chapter presents an extensive overview of the literature, laying a theoretical and empirical foundation for the study of the attributions of the children of the mentally ill. Within this review of the literature, two bodies of research are brought together. One pillar addresses children of the mentally ill. The second consists of the evolution of attribution theory and its application to children and the mental health field. Following the review of the literature, the third chapter details the methodology and the research questions addressed in the study. The results are presented in chapter four, which contains the statistical treatment of the data. Finally, chapter five contains a discussion of the results, highlighting the implications of the study, future directions of research, and the limitations of this study.

CHAPTER II

REVIEW OF THE LITERATURE

Children of the Mentally Ill

Research on the children of the mentally ill has evolved over the years, focusing initially on the transmission of psychopathology from parent to child, and then on the psychosocial impact of growing up with a mentally ill parent. Most recently researchers studied "resilient" children who emerged from the chaotic home environments to become successful adults. The following review of literature will track this development, and lay a foundation for the present dissertation study.

Transmission of Mental Illness from Parent to Child

Early work on the children of the mentally ill focused on the study of schizophrenia. The prevalence of schizophrenia in the general population has been consistently estimated to be approximately one percent (Slater, 1968; Diagnostic and Statistical Manual of Mental Disorders, fourth edition, 1994). However, research has continually demonstrated that children of individuals with schizophrenia become schizophrenic at a rate nearly ten times that of the general population.

Early studies centered on the genetic component of the transmission of schizophrenia. Kallmann (1938) posited that families and society would be better off without the burden of schizophrenics. He pursued this goal through an analysis of the reproduction and heredity of 1,087 people with schizophrenia. He stated that the purpose of his study was to elicit a "schizophrenic genotype" in order to ". . . improve the biological foundations of mankind . . ." (p. xiii). He claimed that there was proof of the heredity of schizophrenia. In 1946 Kallmann studied 174 monozygotic twins of schizophrenic parents and 269 dizygotic twins. He found a 69% concordance rate of schizophrenia in the monozygotic pairs versus an 11% concordance rate in the dizygotic pairs. The highly elevated rate of concordance in the monozygotic twins suggested a strong genetic component to the transmission of schizophrenia (Slater, 1968). Bastiansen and Kringlen (1973) also reported that the rate of schizophrenia in the offspring of schizophrenics is between 10 and 15% when one parent is schizophrenic and rises to between 30 and 60% when both parents are schizophrenic.

Additional theories of transmission of schizophrenia have been posited. Bateson, Jackson, Haley, and Weakland (1956) proposed that communication patterns within the family account for the development of schizophrenia. Bateson et al. developed the notion of the "double-bind," in which the parent said one thing and behaved in an opposite manner, resulting in an irreconcilable conflict for the child. They suggested that this communication pattern provided fertile ground for the development of schizophrenia in the child.

Keitner and Miller (1994) noted that children of parents with an affective disorder have a higher rate of depression than children in control groups. They further stated that parental affective disorder also leads to difficulties among the parents in coping with their children. As a result of the genetic predisposition, and the negative impact affective disorders have on family functioning, Keitner and Miller posited there may be an interaction between both genetic and environmental factors that account for the transmission of depression and other psychopathologies to the children. However, they stated there have been no studies "comparing the relative strength of genetic and psychosocial factors" (p. 16).

Rutter (1966) broadened the study of children of mentally ill parents by examining variables in addition to parental diagnosis that may account for mental illness in the children. His sample consisted of 739 "disturbed" children, ages 5 to 17, who were patients at the Maudsley Hospital in England. Of the 739 children, 137 had one or two parents who were mentally ill, and 592 had only mentally healthy parents. He found that nearly 21% of the children who were disturbed had a mentally ill parent, which was significantly greater than his comparison group (7%). He also found that the incidence of separation from one or both parents was significantly greater for children with mentally ill parents. He commented that many of these separations were necessitated by the parents' own hospitalization. Rutter found that the children with a mentally ill parent were also more likely than the comparison group to have an absent or missing parent. Rutter's inclusion of variables other than parental diagnosis becomes salient when we observe the higher rate of separation and break-up in the homes of children with a mentally ill parent. While Rutter did not find an association between the parent's diagnosis and the child's diagnosis, the other variables began to flesh out a picture of the home environments of these children. Rutter's work shifted the attention from

parental diagnosis and genetics to the impact that the mental illness had on the family functioning, which in turn created a risk factor.

Psychosocial Impact

Comparing the literature on the impact of a parent's mental illness on a child is confounded by a multitude of variables, including parental diagnosis, gender of the mentally ill parent, age of the child, method of assessment, and research methodology. However, the research concerning children's functioning as it is impacted by parental mental illness provides a greater understanding of the potential impact on children beyond psychopathology.

Following on Rutter's heels, other researchers began to investigate the impact of growing up with a mentally ill parent. Mednick and Schulsinger (1968) compared a group of children with schizophrenic mothers (high risk) with a group of children with normal mothers (low risk) in an attempt to identify premorbid characteristics that indicate a predisposition to deviance. They compared 207 high-risk children with 104 low-risk children on a battery of tests assessing cognitive functioning, personality development, and psychophysiological, congenital, and social-emotional areas. Initial findings included only slight differences in cognitive testing. The high-risk group scored significantly lower than the low-risk group on the Arithmetic and Coding subtests of the Wechsler Intelligence Scale for Children. Twenty-four percent of the children in the high-risk group were considered to have an overall poor or relatively poor adjustment as compared with only 1% of the control group. Other areas that differentiated the high-risk group from the low-risk group included discordant home lives and the children's impressions of their mothers as unreliable.

Mednick and Schulsinger (1968) attempted to determine the factors that differentiated the children who became "sick" (were hospitalized for a psychopathology) in the high-risk group from those who did not. They found that the "sick" group, which consisted of 20 children, ". . . tended to lose their mothers to a mental hospital quite early and permanently" (p.281). The "sick" group was also differentiated in their retarded ability to de-escalate after being upset at school. Lastly they found the "sick" group to be characteristic of hypersensitive autonomic functioning, determined through Galvanic Skin Response testing. One of the major limitations in this study was that the mean age of the children was 15.1 years of age, so

while the authors attempted to collect concurrent data, reports of early functioning were retrospective in nature.

Breisser, Glasser, and Grant (1967) compared 101 children with schizophrenic mothers, 45 children of mothers with a psycho-neurotic disorder, and 78 children of mentally healthy mothers. The ages of the children ranged from 5 to 12 years and were matched by age, sex, and occupation of the father. They focused on the behavioral adjustment of the children as measured on a scale devised for this study. They hypothesized that the children of the schizophrenic mothers would demonstrate greater signs of maladjustment than the other two groups. The researchers interviewed the mothers and fathers independently regarding the children's behavior, and had the children's teachers complete a behavior rating scale. The schizophrenic mothers reported higher levels of behavioral problems with their children than did healthy mothers. However, the moderately mentally ill (psycho-neurotic) mothers' assessment of their children fell between the schizophrenic mothers and the non-mentally ill mothers. As a result, the moderately mentally ill group was not significantly different from either the schizophrenic or mentally healthy groups. The fathers' ratings did not yield a difference across the groups. Also the authors did not find any significant differences due to age of the child. The teachers rated the children of schizophrenic mothers as having significantly more behavioral deviations than children of the healthy group. As a result, the authors posited there is greater maladjustment in the children of schizophrenic mothers than in the children of mothers with no psychiatric history.

J. Higgins (1976) conducted a followed up study of 50 Danish children who were born to schizophrenic mothers. Twenty-five of these children had been reared by their biological mothers, while the other 25 had been removed from the care of their mothers and raised by individuals without a history of mental illness. The intent of this study was to investigate the differences between children thought to have a genetic predisposition for schizophrenia who were raised by their mentally ill mother versus those who were not raised by their mentally ill mother. Higgins found that being raised by a schizophrenic mother did not increase the likelihood of psychopathology in the child. One of the shortcomings of this study, however, is that the age of removal from the mother's care is not reported. As a result, any impact in early infancy is

not considered. Additionally, there is no information reported concerning the home environment of and level support provided to the mothers with schizophrenia.

El-Guebaly, Offord, Sullivan, and Lynch (1978) assessed and compared 230 children of alcoholic, schizophrenic and depressed parents using the Rutter's parental questionnaire, and found that the children's adjustment was not differentiated among the illnesses. Twenty-four percent of the children had significantly elevated scores on the Rutter questionnaire. However, they reported that thirty-five percent of the children with a clinically significant score were not receiving services. As a result of this finding, El-Guebaly et al. posited that services should be provided based on parental diagnosis rather than just on the child's misbehavior. In other words, they suggested that psychiatric services should be provided to children as a prophylactic measure, rather than waiting for a child to be referred directly to the clinic. Despite their concern for the children, as demonstrated by their recommendation, a major short-coming of this study is that interviews of the hospitalized parents were the sole source of information concerning their children.

Clausen and Huffine (1979) focused on the family situation prior to and following the hospitalization of a parent for schizophrenia. They found that children were often abused and neglected prior to the hospitalization. One-third of the children were reported to be upset and one-fifth unaware of the cause of the hospitalization; however, many of the parents were oblivious to the children's reaction. They also found that many of the well spouses felt unable to explain the mental illness to their children and, as a result, did not attempt to do so. Similar findings were reported by Yarrow, Schwartz, Murphy, and Deasy (1955).

Clausen and Huffine (1979) reported that children of parents hospitalized for schizophrenia attended significantly less school than did children whose parents were hospitalized for some other mental illness. The authors relied on parental reports of developmental problems in the children in reaching this conclusion. This method is a major weakness of the study, particularly in light of their earlier report that many parents were oblivious to the reactions of their children. The authors conceded that their data actually underestimated the problems encountered by the children, since the parents most likely presented themselves in the best possible light. However, the authors reported that 17% of the children of fathers with schizophrenia had a reported serious problem (i.e., a psychotic episode, psychiatric treatment, or other

serious deviance), whereas 37% of the children of mothers with schizophrenia exhibited a serious problem. They also reported that the highest prevalence of serious problems were in children whose mothers' initial hospitalizations were when the children were between ages of 2 to 12 years.

Clausen and Huffine (1979) also interviewed 13 children. Many of the children reported feelings of anger and responsibility, while many also reported becoming confidants to their "well" parent. The researchers found that many of the daughters were often forced into the role of "mother," having to cook and take care of younger siblings. They reported that several of the older children felt responsible for the parent's initial breakdown. Similarly, Sturges (1978) studied the reaction of 150 children to the psychiatric hospitalization of a family member. She interviewed the "well" parent, the child, nurses, schools and agencies, in an effort to detail the children's reactions. She provided no demographic or clinical data. She focused on the roles children took in their families as a reaction to the hospitalization. Sturges reported that children often took on or were forced to adopt idiosyncratic roles such as caretaker, baby, patient, mourner, recluse, escapee, "good child" and "bad child."

Kuyler, Rosenthal, Igel, and Dunner (1980) studied 49 children, ages 6 to 18 years, of 27 parents diagnosed with Bi-polar Disorder and attending the Lithium Clinic of New York State Psychiatric Institute. All 27 patients were asked about the behaviors of their children during the past year. They found that 39% of the children with one mentally ill parent had a psychiatric disorder, while 50% of the children with two mentally ill parents had a disorder. However, the difference did not reach statistical significance. They also suggested that divorce or prolonged separation of parents predicted higher rates of illness in the children. They reported that the actual incidence of depression in the children was low, approximately 8%. It should be noted that one of the major limitations of this study is the reliance on parental report for diagnostic purposes.

Beardslee, Bemporad, Keller, and Klerman (1983) reviewed 24 studies involving children of parents with an affective disorder. In several studies, they found a prevalence rate of 40 to 45 percent of psychopathology in the children. However, the means for diagnosing the children varied across the studies as did the ages of the children. They concluded that the studies indicated a high rate of psychiatric disorders in children of parents with affective disorders. Downey and Coyne (1990) also reviewed the

literature concerning the impact of parental affective disorder on offspring. They posited that children who have a parent with major depression are more likely to be maladjusted and experience emotional problems than children raised in homes without mental illness. However, Downey and Coyne suggested that future research look more closely at the elements of the relationship between parent and child in order to distinguish genetic predisposition factors and experiential factors.

Cantwell and Baker (1984) studied the impact of having a mentally ill parent on children's mental health, intellectual functioning, language development, and level of psychosocial stress. Their sample consisted of 573 children with speech and/or language disorders, with one mentally ill parent, two mentally ill parents or mentally healthy parents. The mean age of the children was 5 years 8 months. They found that children with a parent with a psychiatric disorder were more likely to have a psychiatric disorder themselves. They also found a strong correlation between having a mentally ill parent and the presence of psychosocial stress. When the researchers controlled for intelligence levels, language levels, and psychosocial stress, they found that having a mentally ill parent was not as strongly associated with the child's mental illness as previously thought. However, the by-products of a parental mental illness on the home environment may be the actual causal link rather than the labeled disorder. It should be noted that the home environment was not measured in this study.

Auerbach, Hans, and Marcus (1993) compared children of schizophrenic parents, children of parents with various other mental illnesses, and children of mentally healthy parents. They compared the children on measures of neuropsychological and social behavioral dimensions. The neuropsychological tests included clinical tasks as well as standardized instruments, such as Porteus Mazes, the Bender-Gestalt Test, and the Raven Progressive Matrices. They found a nearly significant difference in the perceptual-cognitive functioning of the children based on parental diagnosis. The children of parents with schizophrenia had the poorest scores, followed by the children of parents with other mental illnesses, and, finally, the children of parents with no mental illness. They also found that male children of schizophrenic parents were more socially withdrawn than male children in either of the other groups, as measured on the Conners' Rating Scale. However, the male children of the parents with "other mental illnesses" and "no mental illnesses" were not statistically different from each other in terms of social withdrawal. The authors

also reported a surprising finding, that homes rated as more positive in regard to care-giving were negatively correlated with neurobehavioral functioning in the children. One of the major weaknesses of this study is the crude home environment measure used. The authors indicated they had a psychologist and a social worker make home visits and rate the homes on a four-point scale. Since previous studies highlighted the often chaotic environments in homes of the mentally ill, and the social isolation that is also a characteristic of these homes, one wonders whether their environmental measure was sensitive to these aspects. Additionally, by grouping the neuropsychological measures together, they may very well have missed differences in areas apart from motor and perceptual functioning.

Keitner and Miller (1994) reviewed the literature on the impact of major depression on the family. They distilled four consistent findings concerning the impact on the children of parents with an affective disorder:

> 1) Depressed parents have impaired relationships with their children, 2) these impairments are greater in families of depressed patients than they are in families of nonclinical subjects, 3) there is a negative relationship between a parent's depressive mood and a child's functioning, and 4) the homes of depressed children are characterized by family discord and parental rejection" (p.15).

They also found that rates of depression in the children of depressed parents is significantly greater than that of the general population, and that children of depressed parents tend to have younger age of onset of depression than nonclinical samples. They also stated that children of depressed parents were more susceptible not only to depression but to other psychopathology as well.

The amalgamation of research concerning the impact of growing up with a mentally ill parent provides strong reinforcement for clinicians to be concerned about the offspring of the mentally ill. Research continues to demonstrate that children with a severely mentally ill parent are at greater risk for psychopathology and other emotional problems than children whose parents are not mentally ill. Despite all of the available research, there are still gaps in the literature. For example, very few studies focus solely on the father as the mentally ill parent (Downey & Coyne, 1990; El-Guebaly et al., 1978). Clausen, Yarrow, Deasy and Schwartz (1955) interviewed 33 women whose husbands had been hospitalized for psychosis. They studied the reaction of the women, the role change precipitated by the hospitalization, expectations of the hospital, the women's understanding of the mental illness, and the impact on social relationships. Glassman, Magulac, and Darko (1987) presented a case study of a family in which the father suffered from

paranoia. They highlighted how the wife and children (ages 12, 14, and 15) became involved in the paranoia and that a family intervention was essential to break this type of folie à famile. Additionally, Downey and Coyne (1990) proposed that continued refinement of diagnostic procedures and longitudinal studies were necessary to examine the impact of having a mentally ill parent. Furthermore, the variety of methodology and sampling procedures creates difficulty in accurately comparing the studies (Beardslee, et al., 1983; Downey & Coyne, 1990).

It is apparent from a review of the literature that there are many factors that influence the impact of a parent's mental illness upon the child. Bleuler (1974) noted there may even be some factors within the relationship that protect the child against being negatively impacted. This "resiliency" is discussed further below.

Resiliency

Why do some children of mentally ill parents succumb to mental illness and/or behavioral problems while others do not? This question is central to research on resiliency in children of the mentally ill. There are several major researchers in the area of resiliency, including Rutter, Garmezy, Anthony, Werner, El-Guebaly, and Stiffman. One of the major challenges in reviewing the literature on resiliency among children of the mentally ill is the variability with which resiliency has been operationally defined and studied.

Rutter's (1966) research in the Maudsley Hospital sought to examine the hypothesis that ". . . there would be significantly high rates of parental illness of all kinds among children with a psychiatric disorder" (p. 18). Rutter compared the prevalence of parental mental illness between his sample of children at the Maudsley Hospital and a comparison group from another clinic. He found a significantly higher incident rate of parental mental illness in the disturbed children at the hospital. Rutter matched the children by age and social class, and compared the ages of the parents to investigate whether this was a possible confounding variable. Rutter also investigated whether there was a referral bias, that is whether children with mentally ill parents would be referred more often to the hospital than children without mentally ill parents. In order to investigate this question, Rutter compared the 'disturbed' children at the hospital with the 'non-disturbed' children and found that disturbed children had a significantly greater

prevalence of parental mental illness, though there was no significant difference between hospitalized "non disturbed" children and those at the outpatient clinics. Rutter suggested that this finding indicated only a limited possibility of referral bias.

Rutter also sought to identify the qualities of the families with a mentally ill parent that contributed to a greater incidence of disturbance among the children. One such finding was that ". . . separation from one or both parents was significantly commoner among the children with mentally ill parents" (p. 55). Rutter found a higher prevalence of residential placement among the children of the mentally ill. He explained that the placement was often necessitated by the child's deterioration when home, and reported improvement following removal. Rutter also found that the children who succumbed to mental illness themselves often came from homes in which both parents were mentally ill. In homes in which one parent was mentally healthy and able to care for the children, the children tended to fare better. While Rutter was unable to perform any statistical analyses to support this contention, his presentation of a complex array of variables established a foundation for future research concerning resiliency among children of the mentally ill.

Garmezy (1974) focused on defining the concept of a "competent" child. His definition included qualities such as being friendly and well-liked by other children, demonstrating an ease of interacting with adults, a positive self-regard, intellectual competence, and demonstrating an appropriate sense of caution. Feldman, Stiffman, and Jung (1987) pointed out that Garmezy's work, while important in developing the construct of resiliency, was focused on the individual. They criticized Garmezy's lack of inclusion of environmental protective factors.

In 1969 Anthony reported on his St. Louis study, in which he compared three groups: 1) Families in which one parent was psychotic (either schizophrenic or manic depressive), 2) families in which a parent had been hospitalized for a chronic physical ailment, and 3) a control group in which neither parent had a history of significant mental or physical illness. He matched the groups based on socioeconomic status, education, and racial factors. The mentally ill parents were assessed and rated on a scale of process (insidious onset, flattening or loss of affect, and formal thought disorder) to reactive psychosis (sudden onset, related to a trauma), as well as on an "avoiding-to-attacking" continuum. The children were then

assessed through a clinical interview for adjustment, from "well adjusted" to "severely maladjusted." Anthony found that children who adjusted better had parents with a process disturbance rather than a reactive disturbance. Additionally, the more attacking the parent's behavior, the more maladjusted the child was found to be. He also assessed the non-mentally ill parent and classified him or her on a continuum from helpful to harmful. Anthony found that more helpful the parent was, the better adjusted the child; however, a major weakness in this study was the lack of clear definitions of helpfulness.

Anthony (1969) described his assessment of the children, examining five different areas of functioning:

> 1) His [the child's] basic tendency to internalize or externalize his conflicts; 2) his degree of self awareness and body awareness . . .; 3) his proclivity to withdrawal, regression, suspicion, diversion, negativism, or hostility with stressful questioning; 4) his compliance to suggestibility or authority; and 5) his over-identification and involvement with the sick parent and his sickness (p. 180).

Anthony charted the co-morbidity between the child's and the parent's disturbances. He found that process types of schizophrenia, such as catatonia and hebephrenic types, were related to better adjustment in children than reactive psychoses. As the symptomatology became more reactive in nature, that is, paranoid or schizo-affective (in which the parent's behavior was unpredictable and potentially terrorizing), the resulting reaction in the child moved from transient behavior problems to psychosis. Anthony highlighted the impact of home environments on the children. He characterized the homes of catatonic and hebephrenic parents as "laissez-fair" and suffering from neglect. The homes of parents with paranoid delusions were characterized by the family's involvement in the delusional system, and the reactive environments were characterized by chaos and intrusive behavior.

Based upon his earlier research, Anthony (1974) outlined a "risk-vulnerability" model for use in connection with the children of the mentally ill. He used an ecological approach in identifying vulnerable and invulnerable children. He proposed a seven-dimensional assessment: 1) Genetic loading, 2) reproductive loading, 3) constitutional loading, 4) developmental loading, 5) physical health loading, 6) environmental loading, and 7) traumatic loading. Anthony shifted away from the deterministic perspective (i.e., that parental psychopathology leads to child psychopathology) to a recognition that numerous variables led to vulnerability or resiliency.

Kauffman, Grunebaum, Cohler, and Gamer (1979) set out to study the "competent" children of mentally ill mothers. Their sample of 30 mentally ill mothers consisted of 18 women diagnosed with schizophrenia and 12 with a bi-polar or unipolar affective disorder. A comparison group of 22 women was recruited through newspaper advertisements. They assessed the children's competence, and then grouped them by high versus low competence. The competence scores were based upon a clinical evaluation of six areas: 1) Psychopathology, 2) peer relationships, 3) academic functioning, 4) hobbies and areas of interest, 5) cognitive development and attention, and 6) behavior during testing, interview and observation. The mothers as well as the fathers were assessed for psychosocial functioning. They found that in the high-risk group, the six least competent children each had a mother who received one of the six lowest scores on psychosocial functioning. Mothers of the most competent children showed more frequent social contacts, higher efficiency in working outside their home, and a greater ability to meet their own needs than did the mothers of the least competent children. Additionally the mothers of the more competent children exhibited fewer symptoms of their mental illness.

The researchers found that five of the six most competent children in the high-risk group had extensive contact with an adult outside the family, where none of the high-risk children of the low-competence group had such a relationship. The highly competent children were also characterized by an increased ability to interact socially.

Kauffman et al. (1979) reported that all of the children in the high-competence group had received caring attention from their mothers during the preceding seven years, while this was not true for the children in the low-competence group. Maternal behavior early in the lives of the low-competence children was reported to be often unresponsive, vague, abrupt or intrusive.

In comparing the high-risk/high-competence children with the low-risk/high-competence children from the control group, the researchers found the high-risk children to be more creative. These children were compared based on descriptions of their creativity (defined in terms of hobbies and interests) and Wechsler Intelligence Scale for Children.

They reported that most of the mothers of the high-risk/high-competence children suffered from schizophrenia rather than depression. Furthermore, the apathy and lethargy of the severely depressed

mothers appeared to be more detrimental to the children's development, since five of the six low-competence children had severely depressed mothers. They posited that the mother's current functioning was a better predictor than her diagnosis. They found that mothers who were more socially isolated, and had difficulty in their role as parent, tended to have children of low-competence.

Kauffman et al. (1979) began to elucidate variables that contribute to our understanding of resiliency among children with mentally ill parents. They highlighted differences in diagnosis and interaction between mother and child. Furthermore they stressed a strong connection with an outside adult as contributing to resiliency. However, the small sample used in this study for the final comparison (six children in each cell) severely limits the generalizability.

El-Guebaly and Offord (1980a) reviewed the literature on resiliency in children of the mentally ill, and attempted to clarify "resiliency" as a construct and to highlight contributing factors. They pointed out that genetic researchers found that children of schizophrenics have a higher likelihood of being identified as "gifted" than do other children. Therefore, while early research on genetics and schizophrenia focused on the transmission of schizophrenia, El-Guebaly and Offord suggested that another genetic impact may be extreme creativity. However, creativity is loosely defined, and since divergent thinking is associated with schizophrenia, it is difficult to know whether early divergent thinking is solely creativity or an early sign of schizophrenia. El-Guebaly and Offord also identified children's temperament as a contributing factor. They found that children who exhibited a difficult temperament were found to be more likely to be scapegoated by their parents.

The impact of the child's age at the onset of the parental illness has been a contested factor. El-Guebaly and Offord cited conflicting research on this subject. One researcher (Brock, 1962 as cited by El-Guebaly and Offord, 1980a) stated that children under the age of three are very vulnerable. However, Rutter (1966) found that children who were between the ages of two and early adolescence when their parent became ill were more vulnerable. El-Guebaly and Offord reported that boys appear to be more vulnerable, however noted that additional research is needed. They also reported that psychological factors such as self-esteem and mastery have not been studied adequately. Lastly, they reported that a higher IQ was found to be a protective factor.

El-Guebaly and Offord (1980a) also reported on parental factors that impacted upon the child's level of resiliency. They found that lack of parental supervision appeared to contribute to delinquency. Similarly to Kauffman et al. (1979), they reported that a relationship with an adult outside the immediate family was also considered to be a protective factor.

Werner, Bierman, and French (1971) utilized a developmental framework in their longitudinal study concerning the children of Kauai. The initial phase of the study focused on all children born in 1955 on this Hawaiian island, while Werner's 1993 follow-up study centered on the 201 adult-children who were identified as high-risk (i.e., perinatal stress, growing up in poverty, parental psychopathology, and disruptions in the family unit). She noted that of this subset, one-third of the children grew up to be "very competent adults." As a result of her analysis, she highlighted the cumulative impact of four protective factors: 1) The child's temperament at infancy; 2) the child's learned skills and values; 3) the care-giving styles of the parents; and 4) the supportive adults outside of the immediate family. As Werner traced the lives of these children, she found that those who tended to fare well early in life often continued to do so later in life. A salient point in Werner's study is the positive reinforcement the resilient children received for their differentiation from their home lives. Werner stated that most of the resilient children were involved in extracurricular activities, thus, affording these children a sense of mastery and independence. It is this sense of mastery and independence that many of the resilient children brought forth into the rest of their lives. The importance of external supports is also noted: "The resilient youngsters in our study *all* [emphasis added] had at least one person in their lives who accepted them unconditionally . . ." (Werner, 1993, p.512). Similar to Werner's findings, Feldman, Stiffman, and Jung (1987) concluded that the resilient children of the mentally ill benefited from a combination of factors, both environmental and social.

Werner and Smith (1982) reported on 29 of the children in the study with parents who received treatment for a severe mental illness. The parental illnesses included schizophrenia and depression. They found that at age 10 years, 40% of these offspring had developed a learning or behavior problem and, by the age of 18 years, 55% of this sub-sample manifested psychological problems. They reported that most of the mothers of the children who had problems had been diagnosed as schizophrenic. On the other hand, they found that the majority of the children without significant problems had parents who had suffered from an

affective disorder. Similar to earlier findings, the resilient offspring had exhibited an easy or "good natured" temperament during infancy. Additionally, the mothers' early interactions with the resilient offspring were reported to be generally positive and attentive. The teacher ratings for the resilient offspring were more positive at the 10-year mark than for those children found to be vulnerable. Werner and Smith also reported that, in late adolescence, the resilient youths had a higher level of internal locus of control, as measured on the Nowicki Locus of Control Scale, than did the other children. Additionally, the children who exhibited coping problems also scored lower on cognitive evaluations and had difficulty with impulse control and attention.

It is noteworthy to compare and contrast Werner and Smith's (1982) findings with those of Kauffman et al. (1979). While Werner and Smith found most of the "resilient" offspring come from mothers with an affective disorder, Kauffman et al. found that the more "competent" children came from mothers suffering from schizophrenia. The methods utilized are quite different between these two studies. Werner's study was longitudinal while Kauffman et al. conducted a cross-sectional study. Additionally, the measures of "resiliency" and "competence" were not similarly defined across the studies. This apparent contradiction is further muddled when the similarities are highlighted. Both studies point to the relationship with the parent and the level of isolation imposed by the parent as major factors. The similar findings concerning protective factors suggest that the diagnosis and description of symptomatology may be at least partly to blame for the apparent contradiction.

Feldman, Stiffman, and Jung (1987) extended the research on resiliency in their study of 306 at-risk children. The children were considered at-risk as a result of having one or two parents diagnosed as mentally ill within six months of the intake for the study. The mental illnesses of the parents were quite varied and were subsequently clustered into two groups, affective disorders and other disorders, and were compared with a control group with mentally healthy parents. The researchers sought to distinguish the factors influencing vulnerability of the children. Their conceptualization took the form of a "Web." The "Web" included environmental stressors, protectors, and personal coping skills. The children's ages ranged from 6 to 15 years, with 58% being male. The racial breakdown of the children was 64% White, 33% Black, and the remaining 3% American Indian, Hispanic and "other." Feldman et al. collected data from

parents, teachers, and children. They relied on the Child Behavior Check List (CBCL) to measure the level of the child's functioning. They compared their high-risk group with a comparison group of 49 children who were solicited from the same communities as the high-risk group. There were no significant differences between the groups on academic achievement scores, as measured by the Wide-Range Achievement Test; however, both groups were academically below average. Feldman et al. suggested that this finding is more indicative of the relatively low socioeconomic status of both groups.

On measures of social competence, as assessed by the Achenbach Child Behavioral Check List-Social Competence scale, the comparison group scored significantly higher than the high-risk group. It is noteworthy that low scores on the Social Competence scale suggested difficulties in this area, as opposed to high scores on the CBCL, which suggested behavioral problems. The high-risk children experienced a significantly larger number of stressful events each year of their lives than did the comparison group. Additionally, the high-risk group experienced significantly more family changes and living arrangement shifts. Feldman et al. also found that the CBCL scores for the high-risk children who were placed in homes of mentally healthy individuals were comparable to the control group, while the scores of the children living with mentally ill parents were significantly greater.

While Anthony (1974) proposed a broad definition of resiliency, the assessment of this construct has been quite varied. It is apparent from the literature reviewed that researchers continue to struggle with the operationalization of resiliency in their studies. Psychopathology has been one indicator of vulnerability; however, severe mental illness is difficult to measure in childhood since most severe mental illnesses have young-adulthood age of onset. Behavior ratings have been a popular method for assessing resiliency in children (Cantwell & Baker, 1984; El-Guebaly & Offord, 1980b; Feldman et al., 1987; Radke-Yarrow & Brown, 1993). These measures are more closely related to childhood disorders such as Oppositional Defiant Disorder and Conduct Disorder. However, a frequent limitation in the use of such measures is the need for reliable parental reporting.

It is apparent from a review of the literature that there have been numerous conceptualizations of resiliency. Anthony (1974) used a battery of psychological assessment instruments along with a clinical interview to determine how a child was faring. Bleuler (1974) based his conclusions on years of anecdotal

clinical notes; however, he admitted that his close relationship with many of the children may have clouded his assessment of their functioning. Werner and Smith (1982) used a wide variety of measures including official documents and individual assessments in their longitudinal study. Feldman et al. (1987) highlighted behavioral disorders as the indicator for vulnerability. Not only are the dependent variables varied, but so too are the independent variables and samples. Werner and Smith's (1982) would be considered the most prospective of the studies, since they followed an entire cohort over nearly 30 years. Bleuler's (1974) sample was limited in that he used his own patients as participants, and failed to implement a systematized method for data collection. Anthony (1974) and Feldman et al. (1987) both used similar sampling methods and both made comparisons to non-mentally ill populations. Despite these differences, some of the common threads are described below.

Parental Diagnosis and Resiliency

Grunebaum and Cohler (1983) reviewed the literature on children of mothers who were hospitalized for a mental illness. They included in their review both schizophrenia and depression diagnoses. They reported that children of depressed mothers appeared to show greater vulnerability on measures of IQ and attention than those with schizophrenic mothers. The authors posited that this difference may be attributable to the children's increased ability to identify as bizarre the symptomatic behavior of the schizophrenic parent as opposed to the symptomatic behavior of the depressed parent. Anthony (1969) found that children whose schizophrenic parents were hebephrenic or catatonic were better adjusted than those children whose parents were paranoid or reactive. An element of both of these studies is the degree to which the child was included in the parent's illness. Parents who display paranoia or other reactive forms of schizophrenia often involve their children in their delusions and other symptoms (Anthony, 1969). As discussed earlier, Werner and Smith (1982) found that children of parents with an affective disorder fared better than those of schizophrenic parents, while Kauffman et al. (1979) found that the children of schizophrenic mothers were more prevalent in their high-competence group. The apparent inconsistency among these studies speaks more to the qualities about the relationship between parent and child and the specific symptomatology than merely the diagnosis. Additional factors beyond the diagnosis of the parent are discussed below.

Protective Factors

The literature suggests an array of bio-psycho-social protective factors of children with mentally ill parents. El-Guebaly and Offord (1980a) reviewed many of the constitutional factors, such as IQ, gender, and temperament. Feldman et al. (1987) pointed to an interplay of factors, including mother-child discord, the number of mentally ill members in the family, and access to outsiders. This last factor became even more salient in Stiffman, Jung, and Feldman's (1988) article on family living arrangements among children of mentally ill. They found that children who were placed with alternative families with little to no mental illness had behavior scores within normal limits. They interpreted this finding to mean that when a child moves away from the mentally ill parent, the contagion and social learning aspect of being in a chaotic environment was attenuated. Underlying their conclusion was an assertion that a child can be supported in differentiating from the parent's mental illness. Anthony (1983) commented on his own prior work in which he found that "invulnerable" children had an ability to make meaning of and manage their parents' psychotic behaviors. He stated that many of these children had a "dispassionate clinical way" of viewing the parental illness, thus, distancing themselves from it. He proposed that this process may be taught as a possible preventative measure.

Beardslee and Podorefsky (1988) focused on a similar issue in a group of 18 youths who had parents with an affective disorder. These youths were selected from a prior study and, upon initial assessment, were found to be adapting well as determined on the Rochester Adaptive Behaviors Inventory. The children's ages ranged from 14 to 22 years at the second assessment, at which time they were assessed again for adaptation and self-understanding. Fifteen of the 18 had good overall adaptive functioning, and three had a depressive disorder. Several protective factors emerged during their interviews. Sixteen of the youths valued close relationships in which they could confide. Most were deeply involved in school work and engaged in intensive and varied work outside the home. Many of the adolescents described their experiences as full of disillusionment, confusion, and helplessness with regard to their sick parent. They also described the parent as unavailable. The youths who were adapting well highlighted that relationships outside their family were crucial in allowing them to separate from their parents, especially during acute phases of illness. Beardslee and Podorefsky described the well-adapting children as having the ability to

think and act separately from their parents. This finding is similar to Anthony's suggestion above. All the youths who functioned well realized they were not responsible for their parents' illnesses. Beardslee and Podorefsky found that the three who were not functioning as well felt a level of blame for their parents' illnesses. They further reported that the parents of these three participants had not discussed their own depression with their children. This study highlighted the importance of a child's ability to recognize his or her lack of responsibility for the parent's illness. This study had many limiting factors, including a small sample size; participants' ages below the age at which most serious mental illness is manifested, and participants' above-average IQ scores. Despite these limitations, these findings suggest the importance of examining the children's cognitions regarding their mentally ill parents' behavior.

Feldman, Stiffman, and Jung (1987) also highlighted the protective and corrective value of an emotionally healthy environment, as did Warner and Smith (1982). Researchers who examined the environment as well as the individual child found that having a caring adult outside the family structure was a protective factor for these children.

Moss and Pearce (1989) reported similar results in their case study of a mother with paranoid schizophrenia and her three children who shared her delusions. Moss and Pearce reported that when the children were separated from their mother they tended to fare better, dropping the delusion. While the authors did not investigate the cognitions of the children, they raised the issue of young children's cognitive development as concrete and thus more accepting of the parental perspective, thereby increasing their risk.

While there has been a significant amount of research concerning environmental and constitutional factors that impact resiliency, little has been written on the impact of children's own cognitions concerning their parent's mental illness. A summary of the literature in this area follows.

Children of the Mentally Ill-Their Own Perceptions

Bleuler (1974) may have been one of the first researchers in this area to include the children's own descriptions of growing up with a mentally ill parent. He quoted one child who said, "When you've gone through that . . . you can never really be happy . . . " (106). There have been several first-person accounts by adult children concerning their experiences growing up with a mentally ill parent (Crosby, 1989;

Dickens, 1994; Kinsella, 1994; Olson, 1994; Susan L., 1994). However, there has been only limited systematic research on the children's experiences in their own words.

Recently this literature has been expanded through retrospective studies of adult children of the mentally ill. Dunn (1993) interviewed nine adults ages 21 to 41 years who grew up with a schizophrenic mother. She administered a structured interview and, through a thematic-sort methodology, culled five common themes. The first theme was "abuse and neglect." The participants reported parental withdrawal, physical abuse and, on one occasion, sexual abuse. A second common theme was "isolation." The respondents reported feeling isolated from their peers and from the community. Additionally reported was a lack of explanation by family members for their mother's illness. The participants also reported feeling guilty for their parent's illness and conflicted between caring for themselves and feeling disloyal toward their mothers. Many of the participants reported that early contacts with mental health professionals were often guilt-provoking. A final theme was that of social supports as a "lifeline" to the world outside. Clearly Dunn's results must be taken in light of the small sample; however, her results are echoed in a later study conducted by Marsh et al. (1993).

Marsh et al. (1993) reported on the findings of two surveys of members of the Siblings and Adult Children Network of the National Alliance of the Mentally Ill. The initial survey of 60 participants, with a mean age of 37.6 years, found many reports of consequences in both childhood and adulthood. The childhood concerns included disruptions in development, subjective and objective burden, altered roles, fear of becoming mentally ill themselves, impaired relationships with others, social isolation, and difficulty in school. In adulthood many respondents reported impaired self-esteem, interpersonal concerns, difficulties with intimacy, and concerns about childbearing and care-giving responsibilities. Respondents also reported on their needs during childhood, adolescence, and adulthood. The primary need was for adequate services for the mentally ill family member. The need for information about mental illness also took on great importance during adolescence and adulthood. Marsh et al. analyzed the data by comparing the participants with mentally ill parents, the participants with mentally ill siblings and those with both. They found that the children of the mentally ill parents were rated higher on 12 of the 24 consequences, and that the child's age at which the parent became mentally ill was significant. They reported that family

members who were under the age of 11 years at the time of onset had higher ratings for certain concerns. They felt their own needs were not met as children. They felt they had to grow up too fast, and that they had to be "perfect." Poor self-esteem, trust and intimacy problems, feelings of abandonment, identity difficulties, and depression were all prevalent among these respondents.

Aines (1994) surveyed 72 adult children of the mentally ill, 90% of whom had a mentally ill mother and 20% had a mentally ill father. She found the repeated themes of feelings of isolation and lack information. Twenty-seven percent of the respondents reported that parental depressed behavior was the most difficult symptom to handle, followed by 25% who found bizarre behavior the most difficult to handle.

A single study conducted by D. G. Sherer, Melloh, Buyck, Anderson, and Foster (1996) reported on the association between minor children's perception of their mentally ill parent's symptomatic behavior and the children's adjustment. D.G. Sherer et al. recruited 58 mother-child dyads for their study. The children's ages ranged from 8 to 12 years. Fifty-five percent of the children were male, 84% were African-American and the remainder were Caucasian. The target group of 28 mother-child dyads was defined as having a mother with a history of chronic mental illness, a diagnosis of a psychotic disorder, and at least one psychiatric hospitalization within the past year. The comparison group of healthy mothers consisted of 30 mother-child dyads. The researchers used several measures in order to assess children's adjustment, and used both a symptom rating scale and observer rating to measure parental symptomatology. They found that children perceiving their mothers as manifesting symptoms of mental illness had more behavior problems and less perceived self-competence and social support. Children who perceived their mothers as more discouraging had self-perceptions of diminished scholastic and athletic ability and lower self-worth. The results of this study suggest that the child's perception of the mental illness is associated with his or her level of functioning.

Adult Children of the Mentally Ill

Literature on the adult offspring of the mentally ill is quite limited. One study was conducted by Williams and Corrigan (1992), which surveyed 139 students at a private sectarian college. Their sample was divided into four groups: Adult children of alcoholics (ACOA), adult children of mentally ill, normal, and adult children of alcoholics who were also adult children of mentally ill. Parental status was based

upon the students' self-report using Children of Alcoholics Screening Test, and the Relative Psychiatric History Questionnaire. The dependent variables included measures of self-esteem, depression, anxiety, and social interaction and support. The adult children of the mentally ill had significantly higher depression and anxiety scores than did the normal group or the ACOA group. Additionally, children whose parents were mentally ill had significantly less social support than the ACOA or normal groups. While this study is severely limited by its homogeneous and relatively small sample, it does highlight possible differential sequelae of growing up with a mentally ill parent. Marsh et al. (1993) and Aines (1994) found similar findings in their surveys of adult children of the mentally ill.

Summary of Children of the Mentally Ill Literature

Up to this point, the review of literature has focused on the evolution of research concerning children of the mentally ill and resiliency. It is clear from the literature that children who grow up with a severely mentally ill parent face a greater risk of succumbing to psychopathology and other emotional/social difficulties than do children with mentally healthy parents. It is also clear that a great many factors help children weather their chaotic environment and emerge well-adjusted. This author concludes that a natural outgrowth of this research is the study of the children's beliefs about the causation of their parent's symptomatic behavior. Past research has suggested that children's ability to separate themselves from the parent's illness is crucial, and that children's self-blame for the parental mental illness has been associated with decreased functioning. In fact, the importance of teaching coping skills has been evident for quite some time (Anthony, 1969; Garmezy's, 1974).

In an effort to develop a systematic means for evaluating the causal beliefs that the children hold for their parent's symptomatic behavior, this author proposes an attributional framework. The following section of this literature review is devoted to an elaboration of the attributional framework and its proposed use with children of the mentally ill.

Attributional Framework

From across the street, we see a person yelling at another person. At this point it is quite natural to make a series of assumptions about the person yelling. Perhaps we conclude that he or she is an angry person we might wish to avoid. On the other hand, we might believe that the other person provoked the

yelling, or may be hard of hearing. Or maybe we conclude that the traffic noise creates a situation in which a raised voice is necessary in order to be heard.[1]

The process of trying to understand the underlying cause of another person's behavior is the central issue of attribution theory. This section of the literature review traces the history of attribution theory. Following this history, the connections between attributions and motivation as well as attributions and emotions will be discussed. This background lays the foundation for an examination of the past application of an attributional framework to the study of mental illness in a family member. Finally addressed are the methodological issues raised by the research.

History

Fritz Heider's 1958 book entitled Psychology of Interpersonal Relations stands as the cornerstone of attribution theory. He set out to construct a ". . . language that will allow us to represent, if not all, at least a great number of interpersonal relations . . ." (p. 9). Heider argued that, in fact, we are constantly embroiled in trying to understand other people's actions in order to predict future behavior. As a result, Heider termed the "lay" person's efforts to understand others' behaviors as a "Naive Psychology."

Heider endeavored to bring a scientific perspective to a "common-sense" process. He framed his theoretical model by considering both dispositional traits (those within the actor) and environmental factors (those outside the actor) that accounted for a person's behavior. Heider posited that the lack of scientific methodology led people to ". . . take raw material too literally without taking into account additional factors that influence it . . ." (p. 56). Heider developed several concepts in order to explain his theory.

The first was the concept of "Can," which Heider defined as a person's own force that allowed him/her to perform an action despite any environmental concern. The second concept is "Difficulty," which Heider explained as a quality in the environment. Additionally, Heider introduced the variables of "Opportunity" and "Luck." Both of these qualities are considered descriptors of the environment.

Heider discussed the distinction between personal and impersonal causality. The former describes the attribution that the person him/herself ". . . may be thought of as the one necessary and sufficient

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[1] This example was provided by the author.

condition for the effect to occur" (p. 102). Impersonal causality connotes a variety of environmental conditions that lead to a range of effects. The greater the personal attribution, the less the environment is a factor.

Heider (1958) engaged in a discourse on responsibility. He posited that personal responsibility is attributed to a greater degree when there is less perceived environmental contribution. Shaver (1975) described Heider's levels of responsibility as follows:

Association: A level of responsibility derived from no actual direct action, simply by an association to the action.

Causality: The mere presence of an actor and an outcome paired together.

Forseeability: The actor is perceived as being able to foresee the consequences of his or her actions.

Intentionality: The actor is perceived as actively seeking the outcome.

Justifiability: This level is similar to intentionality; however, environmental pressures are perceived as influencing the actor's actions.

There has been some debate about the order of the levels (Harris, 1977), that is whether justifiability and intentionality should be placed in reverse order due to the environmental pressures noted in the justifiable level. The importance of Heider's levels of responsibility becomes apparent in later research on attributions of responsibility and control (Weiner, Graham, & Chandler, 1982).

Jones and Davis (1965) built upon Heider's work in their "Correspondent Inference Theory." They stated, "Our purpose is to construct a theory which systematically accounts for a perceiver's inferences about what an actor was trying to achieve by a particular action" (p. 222). Jones and Davis put forth an analysis of variance model in which a careful examination of two variables, common effects and desirability, allows the observer to decide whether the effects of a person's actions reveal details about the actor's disposition. Effects are the consequences of an action, and common effects are consequences shared by different actions. For example, in choosing which house to buy, a common effect of any choice (action) is that one will obtain shelter. An uncommon effect in this case may have to do with the price of the different homes, the home with a higher price resulting in a greater debt. Jones and Davis reasoned that the

uncommon effects can be used to determine the reason for the choice, since the common effects cancel each other. Observers assume that certain effects are more desirable to the actor than others. Based on this assumption, Jones and Davis posited the notion of assumed desirability, in which the observer makes a conclusion regarding the desirability of the effects of an action.

Their fundamental question was what a person's actions tell the observer about the disposition of that actor. If a person's actions precipitate effects that are quite general and obtainable through many different actions, then we gain little information. If the effects of the action are highly desirable by people at large, then we also gain little information about the actor. However, less generally desirable the effects, and greater uncommon effects, allow the observer to make more confident inferences about the disposition of the actor.

The notion of desirability is susceptible to confounding factors, such as the observer's values or culture (Jones & Davis, 1965). Additionally, a potential bias in the observer is the value the observer places on the effect and the influence it has on him or her. Jones and Davis also posited the variable of personalism, in which bias occurs because the observer believes that his or her presence influenced the action (Shaver, 1975). Furthermore, fundamental to their conceptualization, Jones and Davis presupposed "choice" in each behavior, even if the choice was to act or not to act (Shaver, 1975).

Another out-growth of Heider's initial work came from Kelley (1973) in his covariance model. Kelley's attribution theory was intended to explain both the actions of others and one's own attribution for internal feeling states (Shaver, 1975). Kelley included three variables in his model: 1) Persons, 2) entities, and 3) time/modality. Within this theory an outcome can be assessed across the three dimensions, resulting in a final attribution. For example, if a person does well on an examination, we might first try to find out whether other people also did well (person dimension), then whether the person does well on all types of examinations (entities), and finally, whether there are certain times or subjects in which the person does well. By considering these dimensions, Kelley suggested we can then endeavor to make a causal attribution regarding the person.

Up to this point, attribution theorists have made a distinction between dispositional and environmental attributions. Rotter (1966) introduced the notion of internal versus external control. "If a

person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in *internal control"* (p. 1). Rotter defined external control as the perception that an event is not dependent upon one's own actions, rather as the ". . . result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of great complexity of the forces surrounding him" (p.1). Rotter's influence is most felt in Weiner's work on attribution theory.

The latest, and possibly the most utilized model is Weiner's (1979)[2] three dimensional model for causal attributions. Weiner's three dimensions are internal/external, stable/unstable, and controllable/uncontrollable. Weiner borrowed the internal/external dimension from both Heider (1958) and Rotter (1966). He used this dimension to denote whether a cause was internal or external to the actor. Weiner split Rotter's conceptualization, maintaining the internal versus external locus while making a separate dimension for control. Weiner's conceptualization of the internal/external dimension is most akin to the dispositional/environmental distinction noted above. In 1971 (cited in Weiner, 1982) he introduced the stable/unstable dimension to describe whether the cause is constant and unchanging or variable and fluctuating. Finally, the controllable/uncontrollable dimension was put forth by Weiner to describe whether or not a cause is "subject to volitional control." Much of the early application of Weiner's conceptualization was limited to achievement settings. Weiner (1982) elucidated his theory through examples of test taking performance.

Several strands have remained constant throughout the development of attribution theory. The first is the centrality of the "why" question. The second is the attention to both dispositional (internal) and environmental (external) causes. The third involves a calculus, from Heider to Weiner, involving a refining of the variables. Up to this point, the discussion has focused on the use of attribution theory to analyze systematically a person's behavior in order to understand the person and to predict future behavior. However, researchers have also linked certain causal attributions to both motivation and emotion (Weiner, 1986; Weiner, Graham, & Chandler, 1982).

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[2] It is at this point in the development of Weiner's work that all three dimensions are included. Prior to this date only the first two dimensions were utilized.

Attributions and Motivation

Weiner (1986) discussed early uses of attribution theory in the area of causal perceptions of success and failure in achievement-related tasks. His review of the literature revealed several repeated perceived causes of success and failure, that is ". . . ability, immediate and long term effort, task characteristics, intrinsic motivation, teacher's competence, mood, and luck . . ." (Weiner, 1986, p. 37). Weiner developed a flow chart (see Weiner, 1986, p. 240) linking various causal attributions to their "psychological consequences." He connected each dimension with an affective outcome. For example, locus (internal/external) was linked to pride and self-esteem. The more a success is attributed to an internal cause the higher the self-esteem. Stability was linked to hopelessness and hopefulness. If a negative condition is perceived as unchanging, then the resulting affect was hypothesized to be hopelessness. Control was linked to shame and guilt if directed toward the self, and anger/pity/gratitude if directed toward the other.

Dweck (1975) took causal perceptions of failure a bit further in her work with children who exhibited "learned helplessness" in their school-work. Her hypothesis was that children who exhibited poor motivation in class and gave up easily were not taking responsibility for their failure, and that these children attributed their failure to an unchanging and uncontrollable cause, their ability. She sought to train these children to re-attribute their academic difficulties to "level of effort" and, as a result, increase their persistence. The treatment group was exposed to repeated training sessions in which they experienced two to three failures in an assignment. The trainers would then encourage the students to work harder. In comparison, another group experienced only successes. At the end of the 25-day study, Dweck found that the children who experienced the failures and were subsequently coached to work harder were more persistent in their class-work than the children who experienced only successes. These latter children tended to give up if they experienced a failure, versus the former children who continued to work. While Dweck's sample was very small (n=12), her study is an example of the link of causal attributions to motivation.

Attributions and Emotions

Weiner, Graham, and Chandler (1982) examined the attributions associated with feelings of pity, anger and guilt. They found that pity was associated with uncontrollable and stable causes, while guilt and anger were attributed to controllable causes. Actors experienced feelings of guilt when they perceived their own behavior as controllable. On the other hand, observers experienced feelings of anger when they perceived the actors' behavior as controllable. Graham, Doubleday, and Guarino (1984) studied this dynamic in children ages 6 to 11 years. The children were asked to describe a time during which they felt anger/pity toward another and their impression of the amount of control the target character had over the event. They found that anger was related to greater perceived controllability. It is noteworthy that no age differences were found. It is intriguing that both studies reported similar findings despite the dramatic age differences; Weiner et al. used college students, while Graham et al. used younger children. It is also interesting that both studies utilized similar methodology, i.e., critical incident reports.

The link between causal attributions and emotions has been further studied in attributions for illness. For example, Murphy-Berman & Berman (1993) studied the emotional response of subjects to hypothetical patients with AIDS. They found that in vignettes that described the patient as having contracted AIDS via intravenous drug use versus a laboratory accident, there was greater anger directed toward the drug user. Additionally, a significant factor contributing to the emotional response was whether or not the patient took precautions. They found greater anger toward the patient who took no precautions than toward the patient who did. This finding supported the Weiner et al. (1982) study, which reported increased anger associated with increased attributed controllability, and closely resembled the findings of Weiner's 1988 study on reactions to AIDS. Santilli and Roberts (1993) found that the level of responsibility attributed affected how children viewed hypothetical vignettes of other children with either AIDS or Cystic Fibrosis. They used a sample of 180 children, with a mean age of 11.2 years, and found that when there was no overt statement regarding a child's lack of responsibility for the illness, the participants gave a lower rating of acceptance to this child. It appears from the research that a similar process occurs in both children and adults regarding perceived responsibility and affect.

Weiner (1986) has written extensively about the connection between causal attributions and emotions. Perceived controllability for a negative behavior is associated with increased anger. For example, Weiner cited one of his own previous studies in which he asked respondents to report their affect after reading a vignette of a person falling down a set of stairs. In one version the person falling was reported to be drunk, and in the other the person was reported to be ill. Weiner found that 25% of the respondents reported anger toward the "drunk" person, compared to only 3% toward the ill person. Weiner (1995) reported on a study on perceived causes of AIDS, and found that when the cause was perceived as not controllable (blood transfusion) the affect was more positive; however, when the cause was perceived as controllable (conventional sex, promiscuous sex, homosexuality, or drug use) the related affects were negative.

The discussion thus far has laid a foundation for the use of an attribution framework in the study of the children of the mentally ill. This framework is based on two central models, the first being the development of the dimensions, and the second, the proposed link between causal attributions and emotions. The next section will focus on the limited research concerning attributions of relatives of the mentally ill, and children's attributions for disturbed behavior. Following will be a brief highlight of methodological concerns that have been raised in the general study of children's attributions and the implications for the proposed research.

Attributions and Mental Illness

The attributions of family members for a relative's mental illness is a recent application of the attribution framework. Terkelsen (1987) described two types of beliefs about the etiology of mental illness perceived by relatives. The first is a biological cause. The belief that the illness was caused by a genetic or chemical imbalance, he asserted, allows the family to develop some emotional distance. He posited that the biological perspective lessens the family's sense of self-blame or blame of the patient (i.e., viewing the patient as lazy, etc.). The second type of belief delineated by Terkelsen is interpersonal. This perspective held that the etiology of a mental illness is the family's mode of interacting, and that blame is often felt by family members, leading to a flurry of accusations.

Medvene and Krauss (1989) built upon Terkelsen's discussion in their study of the impact of causal attributions of parents with mentally ill children. They sent questionnaires to 110 members of a Connecticut Chapter of the Alliance for the Mentally Ill. Their final sample consisted of a total of 57 respondents. They measured each respondent's level of participation in the support group, the level of agreement with the Alliance's goals, the interactions the parents had with their mentally ill child, and their beliefs about the cause of their child's mental illness. A quantitative methodology was used to assess each area. The causal attributions for the mental illness consisted of three possibilities: 1) Organic, 2) psychogenic, and 3) moral. The participants were asked to respond to this measure in terms of how they felt before being active in the Alliance, and how they felt at the time of the study. Medvene and Krauss found that participation positively correlated with increased organic attributions and negatively correlated with psychogenic attributions. Additionally, participation in the Alliance positively correlated with improved interactions with their children. It should be noted that all participants were parents and had already been members of the Alliance; therefore, their causal attributions were retrospective and possibly subject to distortion. Additionally, 99% of the subjects were Caucasian, 75% had at least some college education, and 63% were female. As a result the generalizabilty of this study is limited.

Brewin, MacCarthy, Duda, and Vaughn (1991) utilized Weiner's (1986) conceptualization of the connection between attributions for another's behaviors and the resultant emotions. They explored the relationship between the causal attributions of relatives of patients with schizophrenia and the level of Expressed Emotion. Expressed Emotion was defined as an ". . . index reflecting criticism, hostility, or emotional overinvolvement . . ." (p.546) in family members of the mentally ill. Brewin et al. analyzed 58 taped interviews of relatives of patients with schizophrenia and coded their causal statements. The interviews had been gathered in previous research by other researchers on Expressed Emotion (EE), and were therefore already ranked in terms of the expressed emotion. The Low EE were characterized by low levels of hostility toward the mentally ill relative, while High EE were characterized by a great deal of anger toward the mentally ill relative. They found that the attribution significantly correlated with the Expressed Emotion. Attributions that were personal to and seen as controllable by the patient were associated with High EE and hostility.

Weiner (1995), in reviewing the limited literature on attributions of relatives' mental illness, stated that the research appeared to support the notion that certain attributions effected the relationship with the mentally ill relative. Additionally, the research supported his contention of the relationship between attributions and affect. As a result, he recommended future research utilizing the attributional framework, and cited Medvene and Krauss (1989) as an example. An extension of this research was put forth by Robinson (1996).

Robinson (1996) conducted a study of 39 families, each with a mentally ill adult son or daughter. The families were each involved in a long-term psycho-educational program to help cope with the mentally ill family member. The sample was predominately Caucasian and working class. The mentally ill clients' mean age was 25.2 years. Seventy-two percent were male. Robinson's research question was the following:

> Whether attributing responsibility to agents within the family was associated with negative family functioning, while attributing it to agents outside the family was associated with positive family functioning. That is, are family members who blame themselves, the client or another relative for the illness, more likely to perceive their families as functioning poorly? (p. 285).

Robinson found that people-based causal attributions were associated with perceptions of poor family functioning. The people-based attributions were directed to people within or outside of the family. She also found that causal attributions to heredity, biology, God and chance were not associated with more positive family functioning. Robinson's findings were in line with previous research (Brewin et al., 1991; Medvene & Krauss, 1989), which found that causal attributions that place blame for the mental illness on a person are related to poorer interpersonal relations. However, Robinson goes further in asserting that person-oriented attributions are related to perceptions of poor family functioning. She suggested that causal attributions to a person ". . . may be associated with tendencies to be critical and overinvolved" (p. 292). Robinson's work is plagued by similar limitations of prior research, that is, small sample size and lack of representativeness.

The research on resiliency in children of the mentally ill has been on the cusp of attribution research. Beardslee and Podorefsky (1988) found that the youths who were able to distance themselves from their parents mental illness and not take responsibility for the illness did generally better. There has yet to be any research paralleling Medvene and Krauss' (1989) or Robinson's (1996) work focusing on

children as the participants. What follows is related research on children's attributions for disordered behavior. It is noteworthy that this research uses vignettes and stories, and is not focused on the children's attributions for their own parent's symptomatic behaviors.

Children's Attributions for Disordered Behavior

Marsden and Kalter (1976) presented five vignettes to 31 children. One vignette was of a normal child and each of the four other vignettes described a disturbed male child. Seven girls and eight boys from the fourth grade, and seven girls and nine boys from the sixth grade participated in this study. The children were matched for IQ; however, no other demographic information was provided. Each child was asked to describe the behavior in his or her own words, and why he or she thought the child in the story was acting in the described manner. Their responses were then transcribed and rated using a five-point scale. The scale ranged from normal to severely emotionally disturbed. The inter-rater reliability was reported to be .82, which is sufficient. They found that the ratings were significantly different between the "normal" child and the psychotic child. Significant differences were also found between ratings of the passive-aggressive child and the antisocial child. The researchers also compared the children's scores with those of experienced clinicians and found a correlation of .90. They found that sixth graders rated behaviors as more disturbed than did the fourth graders. They also found that the girls perceived the normal child as more disturbed than did the boys, and that the boys perceived the psychotic child as more disturbed than did the girls. They also found differences between the fourth graders and the sixth graders. The sixth graders saw more emotional disturbance in the characters in the vignettes than did the fourth graders. The authors reasoned that the fourth graders may have seen some of the behaviors (i.e., the crying of the phobic character) as more of an appropriate reaction to school than did the sixth graders.

Coie and Pennington (1976) studied the perception of deviance in four groups of children in the following grades: first, fourth, seventh and eleventh. Participants consisted of 10 boys and 10 girls in each group. The researchers described the demographics as largely middle class and mostly white. The participants were first asked to list children they thought were different from most other children, and to explain why. The children were then read two different descriptions of a same-sex child. One description was a child who lost control easily and got into fights. The second description was of a child who thought

that others were "out to get" him or her. The children were then asked to point to different sized boxes indicating how much the described child was different from most other children. Finally the participants were asked to describe why the child in the story was behaving in these ways. The results of the first part of the study demonstrated a difference by age of perceived deviance. The first graders very infrequently mentioned social norm violations, and highlighted aggression and self-referent attributions, while older children (grades 4, 7, and 11) highlighted social norm violations as deviant. The first graders rarely responded in terms of peer codes or peer norms. In the second part of the study, the responses to the vignettes were broken down into three categories, recognition, transition, and reconstruction. Recognition was defined as identification of the behavior as disordered and an ability to identify which behaviors were deviant. Transition was defined as those responses that may initially indicate recognition, but then revert to attempts to normalize the behavior. Reconstruction was defined as responses that indicated an attempt to normalize the described behavior. The researchers found significant age differences. The first graders invariably normalized the irrational behavior, while the older subjects recognized such behavior.

Additionally the researchers found a significant main effect for grade level for the disturbed perspective story, however, not for the loss of control story. The eleventh graders saw the disturbed story as illustrating deviant behavior, while fourth and fifth graders did so but to a significantly lesser extent. Coie and Pennington (1976) suggested that the older children relied to a greater extent on social norms as a yardstick, which allowed them to classify the behavior as deviant. The researches also noted no difference among the ages for the loss of control story. All groups saw it as equally deviant. Coie and Pennington suggested that the inclusion of both loss of control and physical aggression in this vignette confounded their results. The results of this study suggested a developmental shift in the identification of deviance. Very young children seem to rely on self-referent attributions whereas older children utilize a more sophisticated, social-norm reference.

Maas, Marecek, and Travers (1978) studied the causal attributions offered by children for three types of behaviors contained in vignettes, specifically, social withdrawal, and anti-social and self-punitive behaviors. Twenty children from each of three grades (second, fourth, and sixth) were read three brief vignettes describing a child's behavior. Younger children (second graders) responded with significantly

more internal causes for the behavior. Most of the children in the study believed the character could change his behavior; however, this belief varied depending upon the type of behavior. Self-punitive behavior was regarded as most alterable, while withdrawn behavior was regarded as least. Young children perceived persistence of the behavior to be due to a lack of effort on the part of the character to change. Older children perceived the persistence as due to the quality of the behavior itself. It should be noted that the character in the stories was reported to be a child, thus limiting the generalizability, for it is unclear whether the children's attributions would hold if the actor was an adult. Additionally, the sample consisted of white, upper-middle class children, therefore limiting the generalizability of the study.

Self-Blame

The study of self-blame for traumatic events has been carried out in several areas. Janoff-Bulman (1979 & 1992) posited two types of self-blame among rape victims, behavioral and characterological. She proposed that behavioral self-blame, which is blaming oneself for behavior that precipitated the rape, was healthier than characterological blame. Behavioral blame, she posited, allowed the survivor to perceive control in her environment; whereas characterological self-blame directed it toward an unchanging trait within the victim. However, Janoff-Bulman's work has been criticized by researchers such as Hoagwood (1990) and Celano (1992) for its lack of empirical evidence.

Hoagwood (1990) studied 31 women who were sexually abused as children. The mean age of the participants was 37 years, and 80% had college degrees. She investigated the retrospective and current perceptions of blame the women held for their sexual abuse. Hoagwood was interested in exploring the effects of the blame on the subsequent adjustment of these women. She found that the women blamed themselves more as children and than as adults. Additionally they blamed the abuser and the non-abusing parent more as an adult than as a child. Hoagwood found that women who blamed themselves more as children were more depressed as adults and had lower self concept, and that women who blamed themselves more as adults were also more depressed and had lower self concept. The women who blamed their abuser more as adults were less depressed and had higher self-esteem. While the retrospective nature of this study and the fact that the participants were involved in therapy limited the generalizability of the results; this

study does suggest a shift in self-blame with age, as well as a relationship between attributing blame and current functioning.

Another area in which self-blame has been studied is in children of divorce. Healy, Stewart, and Copeland (1993) reviewed the literature on children whose parents divorced, and found that the incidence of self-blame was low in studies that posed the question in an open-ended manner. However, when children were asked questions in a forced-choice fashion, the rate of self-blame rose to approximately 30%. Healy et al. studied the role of self-blame on the adjustment of children of divorced parents. They found that children who reported self-blame for their parents' divorce had lower levels of self-competence and higher scores on externalizing and internalizing behaviors on the Achenbach Child Behavior Check List. Additionally, Healy et al. found these results to persist over a year's time from the first measure to the second. Taken as a whole, the research suggested that attributions of blame for traumatic occurrences have an impact upon a persons functioning.

Methodological Issues

Whitely and Frieze (1985) performed a meta-analysis on 26 research articles concerning children's attributions for achievement. They were interested in attributional egotism, which is a person's need to enhance their self-esteem as reflected in a person's attributions for achievement. They highlighted four factors with which to compare the studies: 1) Wording style, 2) research context, 3) task domain, and 4) grade level. They found that the first two factors influenced whether the attributions were reflective of egotism. They reported on two types of wording style, informational and causal. Informational questions required the participants to report whether or not they possessed a certain quality, while causal questions required the participants to report the factors influencing an outcome. They found that informational questions often led to greater egotism in the responses. The research context was also influential. Experimental settings in which children were responding to vignettes and hypotheticals elicited less egotism than did natural settings, which placed pressure on the children to increase their self-esteem. With regard to the task domain factor, they posited that individual values for different tasks may influence attributions; however, they carried this discussion no further. They also failed to find a difference among the grade levels of children in the reported studies.

Palmer and Rholes (1989) stated that attributional reports of causal inferences often require the participants to report after-the-fact, resulting in possible reporting errors. In order to increase the likelihood that the reported attributions concerned the task in question, and not some prior experience, they recommended concurrent reporting. If this method is not feasible, they recommended open-ended probes that directly relate to the event in question. And, only after a great deal of open-ended responses are amassed should structured probes be used. They examined the pitfalls of using hypothetical situations in the research of children's attributions. They cautioned that the attributions offered by the child may not reflect the attributions obtained if the event actually occurred. This is a similar finding to that of Whitely and Frieze (1985), who found that the setting of the experiment influenced children's attributions.

Impact of Age, Race, and Gender

Attributions and Age. Children's ages and developmental stages have received considerable attention as factors potentially influencing the attribution process. However, debate percolates concerning the extent of the influence. Palmer and Rholes (1989) posited that young children (ages four to six years) ". . . are able to label behaviors with relevant and appropriate dispositional labels . . ."(p. 195). However, they suggested that many studies indicated that dispositional labels mean different things to children at different ages. Central to this debate have been issues of cognitive development and research methodology.

Heller and Berndt (1981) contended that children's attributions are more sophisticated than previously believed. They posited that past researchers had interpreted children's lack of verbal sophistication as representative of a lack of ability to make personality attributions. Additionally, they challenged the belief that young children use themselves as a guidepost for making attributions. They tested these assertions with 120 children divided into four age groups (kindergarten, third graders, sixth graders, and college age). They randomly assigned the children to one of three experimental conditions in order to examine the personality attributions that children make and their ability to predict future behavior. Participants were shown pictures and told about an actor's generous or selfish behavior or, as a control, merely given the actor's age and sex. The participants were then asked to predict the actor's future behavior across five different conditions. Heller and Berndt found that the young children accurately differentiated between generous and selfish behavior, and accurately predicted future behavior. Heller and

Berndt compared the children's responses to those of the college students, and concluded that children were able to make personality attributions. They also found that children predicted their own behavior to be less generous than the generous actor in similar situations, and more generous than the selfish actor. As a result, they refuted previous researchers who posited that young children were not able to make attributions without using themselves as reference points. However, the groups, with the exception of the college students, had difficulty differentiating between the control actor condition and the generous actor condition. The children tended to give the control actor a positive personality attribution, while the adults were less sure about the control actor's future behavior. This finding suggested a difference in sophistication between adults' and children's personality attributions.

Harris (1977) examined the influence of children's age on their attribution for causality and responsibility for an event. Harris varied both the ages of his participants and the stimulus video. His participants were in grades one, three, six, eight, and college. The stimulus tapes depicted a girl whose level of intentionality in breaking a chair was altered across five different scenarios. He found that after showing the video in which the child was depicted in the lowest level of responsibility, the young children in grades one and three gave significantly higher attributions of causality to the girl than did the older children in grades six, eight and college. The older subjects demonstrated increasing attributions to a stimulus person as her behavior became more internally directed. However, the younger participants' attributions were generally undifferentiated across the stimulus events. Harris posited that the younger children's responses were "outcome-dependent," meaning that the children attended more to the fact that the chair was broken rather than the intermediate causality. As a result, the younger children's attributions changed little despite the considerable changes in the intermediate actions of the actor.

Ruble, Feldman, Higgins, and Karlovac (1979) studied the influence of age on a participant's attribution for a target's choice. They found that, while college students made "person" attributions, the five- to six-year-olds most often made an "entity" attribution, and that eight- to nine-year-olds were mixed. The "entity" versus "person" attribution was derived from Kelley's (1973) model of attributions. A second experiment using children in four groups (ages 5-6, 7-8, and 9-10 years) was conducted in which participants were shown an array of items and instructed to select their favorite. Participants were then

asked to make an attribution to themselves or the object regarding the reason for the preference. Ruble et al. found that the children ages five to six years made significantly more entity attributions, while high school students made attributions to themselves. As a result of their findings, they posited that a "developmental shift" occurs regarding the perception of locus of causality. They suggested that young children were more likely to focus on the object and make attributions to the object, while older participants perceived that their choice reflected their own personality.

Rholes and Ruble (1984) again found significant differences between the dispositional attributions of young children versus those of older children. They found that older children (ages 9 to 10 years) demonstrated more stable personality attributions for a target actor than did younger children (ages 5 to 6 years). They suggested that young children tended to expect positive behaviors from others, since the young participants tended not to expect negative behaviors from the actors. It is noteworthy that the Rholes and Ruble study directly contradicted the Heller and Berndt (1981) study. However, one of the major difficulties in attempting to compare studies was the variation in methodology. While Heller and Berndt asked children to make predictions to similar circumstances, Rholes and Ruble (1984) did not.

Rholes and Ruble (1986) further tested their assertion that there is a developmental shift in attributions. They compared the attributions of young children (5 to 6 years) with those of older children (9 to 11 years). The children were first shown four videotaped vignettes of a child acting in either a positive or negative manner. Some children were then shown a fifth video, which was counter-valenced to the first four. Another set of children had a one-day delay in presentation of the fifth video. They found that when young children were first shown the positive videos, followed by the single negative video, their dispositional attribution for the actor was positive. This result was similar to the older children. However, when the young children were first shown the negative videos followed by the positive video, there was a significant difference in attribution depending on the one-day separation. Without the day separating the viewing, the children gave a negative dispositional attribution to the actor, however, with the intervening day, the attribution was decidedly positive. The older children made negative attributions in both conditions. The authors posited that young children have difficulty in making cross-time dispositional attributions. Additionally, they concluded that young children may come to expect positive behavior. The

results of this study indicated that young children appear to be able to make brief, stable dispositional attributions; however, when there was a temporal separation, young children used other information to make their dispositional attributions. It would appear from the Rholes and Ruble studies (1984, 1986), that by the age of 9 to 11 years, children make stable dispositional attributions.

Covell and Abramovitch (1987) studied the impact of age on attributions for happiness, sadness, and anger. They found that the youngest children, ages five to six years, often cited themselves as causes of maternal anger and maternal happiness. The older children, ages seven to nine years and 10 to 15 years, cited family events as well as themselves as causes of mother's happiness and anger. This finding is similar to previous research, which found that young children are often self-referent in their attributions.

Earn and Sobol (1991) found that children's age was a significant factor in how they evaluate causation. For example, they found that younger children, (ages 10 to 11 years) saw effort as less controllable than did older children. Celano (1992) wrote on child sexual abuse victims and their attributions concerning the responsibility for the abuse. She discussed how a child's developmental stage strongly impacted the attributions made. She stated that pre-schoolers tended to share the emotions of their parents, making it more difficult for them to see the sexual abuse as wrong. Celano stated that latency-age children had a difficult time differentiating between the concrete act of agreement and the abstract concept of informed consent. The result of this finding led the children to internalize a sense of shame, because they perceived themselves as having agreed to the molestation. Finally, since adolescents are capable of abstract reasoning, they tended to struggle more with self-blame as a result of questioning their own actions and sexual curiosity.

Overall, the majority of studies supported the assertion that age and cognitive development significantly impact upon attributions (Celano, 1992; Covell & Abramovitch, 1987; Harris, 1977; Palmer & Rholes, 1989; Rholes & Ruble, 1984; Rholes & Ruble, 1986; Ruble, Feldman, Higgins, & Karlovac, 1979). The nay-sayers posited that young children are able to make similar attributions as do adults if the questions are posed in a simple manner and there is no emphasis on verbal communication (Green, 1977; Heller & Berndt, 1981). However, conclusions based upon the literature concerning developmental influence on attributions must remain tentative since there is a great variety in method, age groups and attributions.

Attributions and Race/Culture. Bentancourt and Weiner (1982) compared children from Chile and the United States on attributions for hypothetical situations of success and failure. Overall they reported that the attributions were very similar, with the Chilean students perceiving external causes as more external, and US students perceiving stable causes as more stable, and controllable causes as more controllable. They found that for both cultures stable attributions gave rise to higher expectancies of future success after a successful situation was presented. They also studied the extent to which the participants "liked" the actor. They found that positive regard was influenced by the values and beliefs of the different cultures. Little (1987) compared achievement attributions of Sri Lankan children with those of English children. Little used an open-ended technique, allowing children to respond to stories in their own words. Responses were then categorized. Overall many similarities were found between the two groups in their use of ability attributions, the use of motivation and behavioral attributions and the rare use of attribution to luck. However, cultural differences were cited as possibly accounting for dissimilarities. For example, Little pointed out that in Sri Lanka the children were taught in a group format with no expectation that one student will progress faster than the others, versus the English children whose educational environment was much more individualistic. As a result, Little found that English students were much more likely to attribute a child's achievement to the speed with which they worked, while none of the Sri Lankan students made this attribution. Little's explanation for Sri Lankan children's greater attribution to motivation was vague. She stated that in Sri Lanka the classroom was viewed as more external and instrumental. As a result, Sri Lankan children emphasized external goals, such as good grades, as the cause for the behavior. However, this reasoning is confounded by the English students' greater attributions to task difficulty than the Sri Lankan students'. Little's prior reasoning would have also predicted that task difficulty was higher in Sri Lankan children, since it is also an external attribute.

Cross-cultural studies using attribution theory raises the issue of whether cultural differences may effect the efficacy of this theory. It appears that while there may be similarities across cultures, researchers should be aware that differences between cultures can impact children's responses.

Attributions and Gender. The influence of gender has also been contested in the attribution research. One such area of attribution research is academic success and failure. Parsons, Meece, Adler,

and Kaczala (1982) attempted to test whether girls were more likely than boys to be "learned helpless" in math. They used two methodologies, open-ended responses and rank-ordered responses. They found that with the open-ended methodology, girls tended to attribute success and failure to skill, while boys attributed it to effort. They also found that both boys and girls were equally and predominantly internal for both success and failure.

In the rank ordered responses, the boys ranked ability as a more important cause of success than did the girls. The girls ranked consistent effort as more important. Parsons et al. (1982) suggested that this finding indicated that girls perceived their successes as more controllable but less stable than did boys. The reverse pattern emerged for failure. The boys ranked lack of ability as a cause for failure lower than did the girls. However, the boys ranked lack of effort higher than did the girls. This finding suggested that the boys perceived failure as more controllable than did the girls. They also found that the girls had a lower future expectancy for success in mathematics than did the boys. The authors posited that this may be due to future math courses requiring more effort.

This study demonstrated many of the pitfalls of attribution research. The two different methodologies led to different results. The rank-ordered method did not have all of the attributions mentioned in the open-ended version; thus, the results may be confounded by the procedure used for obtaining the attributions. A further methodological issue was raised as a result of the researchers' lack of definition for the term "skill." Weiner (1983) pointed out that terms such as "skill" and "knowledge" should not be necessarily construed as stable attributes. He stated that the notion of ability is only stable in tasks in which ability is not influenced by learning. As a result, he cautioned researchers to define their terms clearly.

Weiner (1986) reported that research on the impact of gender on attributions revealed differences not in overall attributions, but as they related to certain tasks. He posited that, given a stereotypically male task, women's expectations for success will be lower and their attributions for success will be unstable; while their attributions for failure will be more stable. However, men will attribute success to stable and internal causes and failure to unstable causes.

Many of the articles reviewed reported no significant differences between male and female participants (Dalenberg, Bierman, & Furman, 1984; Harris, 1977; Maas, Marecek, & Travers, 1978; Ruble, Feldman, Higgins, & Karlovac, 1979; and Travis, 1982). Therefore it appears that the context of the experiment may itself be a major factor contributing to any gender differences in attributions.

Summary

The theoretical and empirical attribution literature reviewed provides a strong foundation for the use of an attributional framework in the study of the children of the mentally ill. Attribution theory grew out of the desire to systematize the manner in which people explain another person's behavior. Over the years attribution theory has built upon suggested connections between attributions and motivation, attributions and emotion, and attributions and coping. The application of attribution theory in the study of relatives of the mentally ill is still quite young, and has yet to be applied to the children of the mentally ill. However, the existing research, including Medvene and Krauss (1989), Brewin et al. (1991) and Robinson (1996), suggests a potentially robust area of research concerning the attributions that children of the mentally ill make concerning their mentally ill parent's symptomatic behaviors. Methodological critiques suggest that researchers of children's attributions pay particular attention to the age and developmental stage of the participants as well as the methodology applied.

In sum, the preceding review of literature covering children of the mentally ill and attribution theory provides a foundation for the methodology used in this dissertation study. The design and procedures applied in the present study are the focus of the next chapter.

CHAPTER III

METHOD

Purpose of the Study

This dissertation study examined the causal attributions made by adult children of the severely mentally ill for their parent's symptomatic behaviors. A retrospective methodology was used in order to explore whether the attributions of the participants changed from their first realization that their parents were behaving in a problematic manner to the present time. This study also explored the associations between attributions and participants' levels of coping as well as participants' resiliency, as defined by their present functioning.

This chapter describes the methodology utilized in this study. The demographics of the participants as well as the instrumentation employed are also presented. Lastly the data analysis strategies are discussed.

Retrospective Methodology

A retrospective methodology was used in order to facilitate the gathering of the data. Retrospective designs are widely used in social science research (Henry, Moffitt, Caspi, Langley, & Silva, 1994), including studies of children of the mentally ill (Dunn, 1993; Marsh et al., 1993). The decision to use a retrospective design was based upon several additional factors. Access to children who are currently residing with a severely mentally ill parent is beset by legal difficulties, which include the need for permission by the parents and the requirements of mandatory reporting laws. Urquiza (1991) commented on this dilemma in research concerning children who had been abused, suggesting that children often feel pressured not to talk about the abuse, especially if they are still living with their parents. Urquiza posited that interviewing these children after they reach adulthood often allowed them to have greater control over the interview and to use more mature coping mechanisms to address emotions that are stirred up by their recollections. Additionally, substantial resources that were unavailable to this researcher would have been necessary to conduct a prospective study using minor children. Since this study was exploratory in nature, a retrospective design provided the opportunity to gather a great deal of information about various times in participants' lives. Only a longitudinal design could provide a better opportunity to gauge more accurately

how the participants' beliefs changed over time. Despite the advantages of a retrospective study, there are some limitations.

While a retrospective method allows for easier access to the participants, it does rely on the accuracy of participants' memories, which are naturally subject to the vagaries of time. Henry et al. (1994) conducted a longitudinal investigation in order to examine the efficacy of the retrospective design. They used data gathered prospectively on their sample, and then interviewed their participants in a retrospective manner to determine the correlation between the prospective and recalled data. In general, they found that the lowest level of agreement was among the psychosocial variables, whereas the highest level of agreement was on variables such as recalled height and reading ability. They concluded that a retrospective methodology should be used with caution. While the limitations imposed by the retrospective method are further elaborated in the discussion section of this study, the complexity of the issues and the limited resources available were well-served by this design.

Procedure

Participants

A total of 30 participants were solicited for this study. All of the participants responded to an advertisement placed in a regional newspaper (see Appendix A).

There were two basic criteria for a participant to be included in this study. The first criteria was that the participant's parent had to be diagnosed with a severe mental illness (i.e., schizophrenia, manic-depression, or major depression). The diagnosis was provided by the participants in the study; however, there was no requirement to provide any documentation confirming the diagnosis. In order to minimize fictional accounts, the author asked participants to complete a checklist containing an enumeration of possible symptomatic behaviors exhibited by their parents (see Appendix B for frequency and prevalence of symptoms). Additionally, the author included a question concerning the circumstances surrounding their parent's diagnosis. The second criteria for participation was that respondents must have spent all or part of their childhood in the home of their mentally ill parent. There was no established minimum amount of time participants had to have lived with their mentally ill parent.

The ages of the participants ranged from 20 to 57 years with a mean of 31.8 years. Twenty-eight (28) of the participants classified themselves as white, and two identified themselves as "other." Three (3) of the participants were male, and twenty-seven (27) were female. Eighteen (18) of the participants were single, four (4) were married, four (4) were divorced, and four (4) were partnered. Four (4) of the respondents had a high school diploma or GED, one (1) had vocational training, and two (2) had an associate's degree. Eleven (11) participants were enrolled in college, five (5) had bachelor's degrees, and seven (7) had graduate degrees.

Ten (10) of the participants had a parent diagnosed with schizophrenia, seventeen (17) had a parent diagnosed with bi-polar disorder or manic-depression, and three (3) had a parent diagnosed with major depression.

Twenty-two (22) of the mentally ill parents were mothers, and eight (8) were fathers. Dunn (1993) used a similar sampling technique of adult children of the mentally ill. The response to her advertisements for participants resulted in 18 respondents with a mother diagnosed with psychosis, and two with a father diagnosed with psychosis. The nearly identical percentages are striking. Dunn suggested that the higher proportion of psychotic mothers is a reflection of the two-to-one ratio of schizophrenic mothers to schizophrenic fathers. Additionally, Gottesman (1991) discussed the later onset of psychosis in women than in men, resulting in women marrying and bearing children prior to their first psychotic episode.

At the beginning of each interview, the participants were required to sign a voluntary consent form (see Appendix C). All participants received a five dollar gift certificate for participating in the study and were treated in accordance with the American Psychological Association's Principles and Ethics. Prior to commencing the interviews, this author received the approval of the Human Subjects Review Committee of the School of Education, University of Massachusetts at Amherst.

Quantitative Variables and Instrumentation

The two major variables addressed in this study were causal attributions for a mentally ill parent's symptomatic behavior, and resiliency (present functioning). A brief review of the literature supporting each of these concepts is presented, followed by a description of the operationalization of the variables.

An attributional framework provides a system by which people's explanations for events can be categorized. Building on Heider's (1958) work on attribution theory, subsequent research has elucidated several attributional dimensions, including the following: Internal/external (to the actor); controllable/uncontrollable (by the actor); stable/predictable-unstable/unpredictable; controllable/uncontrollable (by the observer); and self-blame (Janoff-Bulman 1992; Weiner 1986). Research has supported a link between attributions and emotions, and attributions and coping (Brewin et al., 1991; Medvene & Krauss, 1989; Robinson, 1996; Weiner, 1986). The attribution measure used in this study is based upon this literature as well as instruments designed by previous researchers. Further elaboration of the attribution scale used in this study is presented below.

Bleuler (1974), as well as other researchers (Feldman, Stiffman, & Jung, 1987; Rutter, 1966; Werner & Smith, 1982), studied children who, despite growing up in the midst of chaos and disturbance due their parent's mental illness, emerged well-adjusted. These children who appeared "unscathed" have been termed "superphrenic," "invulnerable," and "resilient." While there has been some debate concerning the appropriate appellation, the present researcher uses the term "resilient". However, the actual definition of resiliency and its measurement are hotly debated. Past research on the children of the mentally ill has used behavior ratings (Auerbach, Hans & Marcus, 1993; Cantwell & Baker, 1984; El-Guebaly & Offord, 1980b; El-Guebaly, Offord, Sullivan, & Lynch, 1978; Kauffman, Grunebaum, Cohler, & Gamer, 1979; Radke-Yarrow & Brown, 1993; Feldman, Stiffman, & Jung, 1987) and psychopathology as the measures of resiliency (Cantwell & Baker, 1984; J. Higgins, 1976; Williams & Corrigan, 1992). G.O. Higgins (1994) studied adults with a traumatic childhood, and focused on whether the person could "love well" and "work well," using Thematic Apperception Test responses and clinical interviews. There are myriad ways to measure resiliency, and the literature does not point to a single method, nor to an instrument whose sole purpose is to measure resiliency. However, as noted above, the domains that generally are assessed include the presence or absence of psychopathology and the level of social-emotional functioning.

Therefore, based upon the conceptualization of causal attributions and resiliency, four major instruments were utilized in this study: 1) The Adult Children of the Mentally Ill-Attribution Scale (ACMI-AS) (see Appendix D); 2) the Brief Symptom Inventory (BSI); 3) the Self-Efficacy Scale (SES); and 4) the

Rosenberg Self-Esteem Scale. In addition to these scales an interview schedule with measures was used to investigate coping over the participants' life development (see Appendix E); however, the coping measures were not developed with psychometric rigor. The following discussion focuses on the development of the ACMI-AS, and the use of this and other scales in the study.

Attribution Measure

ACMI-AS. The Adult Children of the Mentally Ill-Attribution Scale was developed by the author for the present study. The scale consists of 10 statements about the mentally ill parent's symptomatic behaviors and the adult child's beliefs concerning those behaviors. A seven-point Likert scale was provided for each statement. The participant rated his or her level of agreement or disagreement with each statement. The statements were intended to address several different possible attributions: 1) Internal-characterological, 2) internal-biological, 3) external 4) controllable (by parent), 5) stable/predictable 6) controllable (by child), and 7) self-blame.

The development of the ACMI-AS was based upon three sources: 1) Prior researchers' instruments, 2) the author's assessment based upon a review of the literature; and 3) the author's previous pilot study and version of the ACMI-AS. One source of inspiration came from Medvene and Krauss' "Mental Health Beliefs" (1989) instrument, which was intended to assess the causal attribution of relatives of the mentally ill. Additionally, research conducted by Brewin et al. (1991) on the attributions and Expressed Emotion in relatives of patients with schizophrenia was also considered in the development of the ACMI-AS. Finally considered was Tessler's (no date) set of attributional statements from a survey he had developed for the families of the mentally ill.

In a previous pilot study, Bourke (1996), used an 11 item ACMI-AS to identify the attributional statements that demonstrated tentative validity. As a result of the study several modifications were made to the original ACMI-AS. The previous version divided the self-blame attribution into two separate statements (i.e., ". . . because my parent was mad at me . . ." and ". . . because I was bad . . ."). The results of the pilot study suggested that these statements did not adequately tap the construct of self-blame; therefore, they were replaced with a single statement: "I blamed myself, or thought I caused my parent's problematic

behaviors, thoughts or feelings." Hoagwood (1990) utilized a similar statement in her research concerning sexual abuse survivors' attributions for their abuse.

Measures of Resiliency and Coping

Four instruments were used to measure resiliency (present functioning) and coping. The first instrument was the Brief Symptom Inventory (BSI), which was included in order to maintain consistency with past studies and to utilize a measure of psychopathology. The second was the Self-Efficacy Scale (SES) by Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs & Rogers (1982). The third instrument was the Rosenberg Self-Esteem Scale (Rosenberg, 1965). The fourth measure was contained in the interview schedule. Participants were asked questions concerning their school performance, social interactions, social supports, history of delinquency, history of drug and alcohol abuse, and history of diagnosed mental illness. These last measures, contained in the interview schedule, were used in both a retrospective and concurrent manner, providing a developmental view of coping.

BSI. The Brief Symptom Inventory (Derogatis, 1993) is a 53 item, self-report symptom instrument, which provided an assessment of participants' present level of psychopathology. The instructions were simple and asked the respondent to identify how much he or she was distressed by the listed symptoms within the past seven days. The participant selected an answer from a five-point Likert scale ranging from 0 (not at all) to 4 (extremely). It consisted of nine primary symptom dimensions and three global indices. The symptom dimensions included the following: Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. The indices were as follows: Global Severity Index, Positive Symptom Total, and Positive Symptom Distress Index. The BSI was chosen for this study because of its broad range of symptoms. The Somatization dimension included seven items and tapped a respondent's distress over physiological problems, such as nausea, dizziness, and numbness. The Obsessive-Compulsive dimension was comprised of six items and emphasized intrusive thoughts or impulses associated with Obsessive-Compulsive Disorder. The Interpersonal Sensitivity dimension included four items that focused on a person's "feeling of inadequacy and inferiority" (Derogatis, 1993). The Depression dimension had six items that specified the depressed mood, hopelessness and lethargy aspects of depression. The Anxiety

dimension included six items that addressed feelings of terror and fear as well as restlessness. The Hostility dimension had five items and focused on "the negative affect state of anger" (Derogatis, 1993, p. 8). The Phobic Anxiety dimension was comprised of five items that assessed a person's level of fear associated with certain people, places, situations or things. The Paranoid Ideation dimension contained five items that tapped a person's sense of suspiciousness, "projective thought(s) . . . and delusions" (Derogatis, 1993, p. 9) associated with paranoia. The Psychoticism dimension had five items that highlighted schizoid type behaviors and ideas of reference. The Global Severity Index was an assay for the overall severity of symptomatology, and was computed by summing the items and dividing the total by the number of items answered. The Positive Symptom Total index measured the number of items with which participants indicated some distress. The Positive Symptom Distress Index measured the level of distress of participants by dividing the sum of the item values by the Positive Symptom Total index.

Additionally, the BSI was based upon the more well-known symptom checklist, the SCL-90-R. The internal consistency reliability coefficients of the BSI ranged from .71 to .85. The two-week test-retest reliability coefficients ranged from .68 to .91. The correlations between "like" symptoms of the SCL-90-R and the BSI ranged from .92 to .99. The BSI was self-administered and required only 8 to 10 minutes to complete. The ease of administration and multi-dimensionality made the BSI an appropriate choice for the present study.

Self-Efficacy Scale. Self-efficacy is defined as ". . . the expectation that one can successfully perform a behavior in question" (Sherer et al., 1982, p. 663). Sherer et al. developed the SES to assess a person's overall sense of self-efficacy (i.e., the degree to which a person believes he or she can positively impact his or her environment in the manner desired). Sherer et al. explained the development of the scale, which consisted of 23 items and seven "filler" items. In their initial factor analytic study, based on 376 college students who completed the scale in an introduction to psychology course, they found two salient factors. The first factor contained 17 items, accounting for 26.5% of the variance, and which was purported to measure self-efficacy without reference to any specific behavioral domain. This factor was named the "General Self-Efficacy" subscale. The second factor consisted of six items, which accounted for 8.5% of the total variance and reflected "efficacy expectancies in social situations" (p.665). This second factor was

named the "Social Self-Efficacy" subscale. Sherer et al. reported Cronbach alphas of .86 and .71, respectively, for the subscales.

They replicated their study on a new sample of 298 students enrolled in introduction to psychology classes and found comparable results. Additionally, they began to explore the construct validity of the scale by correlating the results with measures on the following instruments: Internal-External Control Scale by Rotter; the Personal Control Subscale of the I-E Scale; the Marlowe-Crown Social Desirability Scale; the Ego Strength Scale; the Interpersonal Competency Scale; and a Self-Esteem Scale. Sherer et al. found that the two subscales of the Self-Efficacy Scale correlated with each of the other measures to a moderate amount, and all in the appropriate directions. While the results lent support to the construct validity of the instrument, the moderate correlations indicated that the measures used are not measuring ". . . the precisely same underlying characteristics as the General and Social Self-efficacy subscales" (p. 668).

The instrument was further assessed using 150 inpatients from the Tuscaloosa VA Medical Center who were being treated for alcoholism. The participants completed the Self-Efficacy Scale as well as a questionnaire concerning success in vocational, educational, and military areas. They found that the General Self-Efficacy subscale correlated with past success in vocational, educational, and military goals. The Social Self-Efficacy subscale was negatively correlated with number of jobs quit, and number of times fired, thus providing additional validity data.

Sherer and Adams (1983) continued to test the validity of the scale in a study they conducted with 101 students enrolled in introduction to psychology courses (45 males and 46 females). In addition to completing the Self-Efficacy Scale, the students completed the MMPI, the Bem Sex-Role Inventory, and the Rathus Assertiveness Schedule. Sherer and Adams employed a modified version of the Self-Efficacy Scale, which used a 5-point Likert scale instead of the original 14-point scale. They reported that this modification had produced comparable results to the original version. Sherer and Adams further reported that high scores on the General Self-Efficacy subscale were correlated with better adjustment, as measured by the Depression, Psychasthenia, and Social Introversion scales of the MMPI. The Social Self-Efficacy subscale was positively correlated with the Hypomania scale and negatively correlated with the Social Introversion scale on the MMPI. The negative relationship between the Social Self-Efficacy subscale and

the Social Introversion scale was considered consistent with the conceptualization of the Social Self-Efficacy scale. Both subscales were found to correlate with assertiveness and masculinity.

Woodruff and Cashman (1993) replicated the reliability study using a sample of 400 students (220 men and 180 women) in an introductory management class. They reported similar Cronbach alphas, .84 for the General Self-Efficacy subscale, and .69 for the Social Self-Efficacy subscale, and found similar factors as a result of their analysis. Woodruff and Cashman also found similar construct validity coefficients in their study concerning measures of self-esteem and mastery. They concluded that scores on the General Self-Efficacy subscale were indicative of future expectations of the students' success in a class. They found that students expecting a grade of A scored significantly higher than those expecting a grade of B.

Taken as a whole, the studies investigating the reliability and the validity of the Self-Efficacy Scale provided favorable psychometric data. The present investigator chose to use this measure because of its inclusion of both General and Social Self-Efficacy measures, thus, providing a wider scope of assessment. Additionally, the conceptualization by Sherer et al. (1982) of self-efficacy as dependent upon past experiences fits well with the nature of the present study's focus on the past experiences of the children of the mentally ill.

Self-Esteem Scale. Rosenberg's Self-Esteem Scale (SES) was a 10-item, unidimensional scale intended to measure a person's "self worth, self respect, and level of self-acceptance" (Rosenberg, 1965). Blascovich and Tomaka (1991) summarized previous research on the reliability and validity of the SES. They reported internal consistency coefficients ranging from .77 to .88. Additionally, they stated that two-week test-retest data revealed a correlation coefficient of .85. They also reported positive convergent validity findings. While the SES did correlate with the Self-Efficacy Scale to a moderate degree, the inclusion of both measures was intended to provide a broader, overall measure of resiliency. Participants responded on a 4-point Likert scale. The scale was arranged such that low scores indicated low self-esteem, and higher scores suggested higher self-esteem. The range of possible scores was from 10 to 40.

Coping Measures. In an effort to assess the participants' level of coping at each time period, a series of quantitative questions were included in the questionnaire focusing on the following: School/work performance, size of peer group, school problems, delinquency and problems with the legal system, drug

and alcohol use, and mental health. Within the interview schedule participants were asked to report their performance in school or work on a 4 point scale ranging from poor to excellent. Participants were also asked to indicate how many friends they had (none, a few, or a lot), whether they were in trouble in school or with the legal system, and whether they were diagnosed with a mental illness.

Protective Factors

As noted in the literature review, several factors were generally associated with children who were resilient. These factors included the following: Level of family discord (Feldman et al., 1987); amount of information regarding mental illness (Beardslee & Podorefsky, 1988; Marsh et al., 1993; Werner, 1993), and support from people outside the immediate family (Feldman et al., 1987). In order to gather data on each of these variables, questions were included in the interview at each time period. Family discord was measured on a 4-point scale ranging from "problems most or all of the time" to "rarely or never had any problems." Participants were queried about discord in their family as a whole as well as in their individual relationships with each parent.

The subjective amount of information regarding mental illness was assessed by asking participants at each time period to rate their level of knowledge (i.e., none, a little, a fair amount, or a great deal). Participants were also asked whether they received any support from people outside their immediate family at each time period. The source of the support was recorded.

Qualitative Measures

In an effort to obtain a fuller understanding of the causal beliefs and experiences of the participants at each time period, a series of open-ended questions were asked (see Appendix E). The questions were based upon this author's pilot study (Bourke, 1996). Included in these questions was a specific inquiry regarding the participants' belief about why they thought their parent was behaving in a symptomatic manner.

Data Collection Procedures

Prior to meeting with the participants, this researcher conducted a short telephone interview with each prospective participant. The individuals were told the study was designed to learn about the experiences of people who grew up with a mentally ill parent. Prospective participants were asked the

diagnosis of their parent, and whether they spent at least part of their childhood living with the mentally ill parent while he or she was symptomatic. The participants who met the prescribed criteria were told that the entire interview process would take a total of two hours and that they would receive a five dollar gift certificate as compensation. Arrangements were then made for the face-to-face interview.

At the beginning of each interview, this researcher presented the participant with a voluntary participation consent form for signature. Participants were assigned identification numbers corresponding to the order in which they were interviewed (i.e., 01 = first, 02 = second). The participants were asked to complete the BSI, the Self-Efficacy Scale and the Self-Esteem Scale. These present functioning/resiliency measures were presented at the beginning of the meeting in order to avoid any possible impact that the emotions brought up during the interview might have upon answers provided after the interview.

Next, participants were asked to complete a checklist of possible behaviors and symptoms their mentally ill parent may have exhibited. Participants were asked to check all symptoms that applied and to rank them in descending order of how upsetting they were to them. Demographic information was then gathered, including the following: Gender, age, race, highest level of education, socio-economic class growing up and presently, number of siblings, prevalence of mental illness in the family, and the amount of time participants spent living outside their immediate family. The formal interview was then conducted and audiotaped. The Adult Children of the Mentally Ill-Attribution Scale was offered alternately with the remainder of the interview schedule.

In the interview participants were initially asked to recall when they first noticed that their parent was mentally ill or behaving in a problematic manner. This initial age was coded as "Time 0." Participants were then asked, in five-year increments up to 21 years of age, questions concerning their attributions and adjustment (i.e., school performance, peer relationships, delinquency, and mental health status). Each subsequent five year period was coded as "Time 1," "Time 2," and "Time 3." Data was also collected for a final "Present" time period. If a participant was currently below 21 years of age, then his or her current age was coded as "Present." If a participant was over the age of 21 years, his or her final responses were coordinated with his or her current age. For example, if a participant indicated that she first realized her parent was behaving in a problematic manner at age five years, and her current age was 40 years, then the

age at Time 0 was five years, at Time 1 it was 10 years, at Time 2 it was 15 years, at Time 3 it was 20 years, and at Present it was 40 years.

Upon completion of the interview, each participant was compensated with a $5.00 gift certificate from a local music and book store. Additionally, each participant was provided a list of counseling resources that could be accessed if the participant felt the need following the interview.

Analysis of the Data

There were seven central research issues: 1) To evaluate the Adult Children of the Mentally Ill-Attribution Scale as an instrument for assessing attributions; 2) to explore underlying factors within the ACMI-AS; 3) to examine whether participants' causal attributions changed across time periods as well as across age groups; 4) to evaluate possible associations between attributions and coping at each time period; 5) to investigate the relationship between attributions and protective factors; 6) to determine whether there were associations between the participants' attributions and their resiliency (current level of functioning); and 7) to examine the qualitative themes that arose from open-ended questions concerning participants beliefs about the cause of their parent's symptomatic behavior.

In order to examine the efficacy of the ACMI-AS, the data gathered was initially pooled, and exploratory intercorrelations were computed. A factor analysis of the ACMI-AS was then conducted, and the resulting factors were then used in subsequent analyses. The following statistical analyses were conducted to address the remaining research areas.

A regression analysis was used in order to investigate whether participants' attributions changed over time and across age groups (0-7 years, 8-14 years, 15-21 year, and 22+ years). The average factor scores were graphed by time period and age group. Correlations were computed to establish relationships between attributions at each time period and the number of friends reported by each participant at that time. ANOVAs were computed to establish whether participants' attribution factor scores varied by whether they were in trouble at school or with the law, by use of alcohol and drugs, and by whether they had been diagnosed with a mental illness at each time period. Correlations were also computed to assess associations between the factor scales and measures of resiliency (present functioning). Regression analyses were computed in order to establish whether changes in participants' attribution factor scale scores were

impacted by variables in addition to maturation. The variables included in these analyses were the following: The subjective amount of information participants reported concerning mental illness; the participants' current age; the amount of time since the initial realization that their parent was behaving a problematic manner; and whether or not they had support outside their immediate families. Participants' answers to the interview questions about their beliefs concerning their parent's symptomatic behavior were transcribed and categorized by theme. Chapter four describes the results of the data analysis.

CHAPTER IV

RESULTS

The results section is divided into several parts. The first part contains data concerning internal consistency and reliability of the attribution instrument. Next presented are the results of a factor analysis of the Adult Children of the Mentally Ill-Attribution Scale (ACMI-AS). The underlying factors are then used in subsequent analyses examining the change in attributions by time period and age group. The participants' factor scores and coping are explored via correlations and ANOVAs. The correlations between the factors and the measures of resiliency (present functioning) are then presented, followed by a summary of first-person statements made by the respondents. These statements concern the respondents' beliefs about the cause of their parent's symptomatic behavior, and are grouped by theme. Provided below is a table consisting of the attributional stems and their corresponding numbers, which is intended to facilitate the reader's understanding of the data reported.

Table 1. ACMI-AS Attributional Stems

Number	Stem
1.	I believed my (father/mother) behaved in these ways because (he/she) was mean, lazy, impulsive, etc.
2.	I believed my (father's/mother's) problematic behaviors, thoughts, or feelings were caused by a disease or illness.
3.	I believed my (father's/mother's) problematic behaviors, thoughts, or feelings were caused by an external event or occurrence.
4.	I believed my (father/mother) could control (his/her) problematic behaviors, thoughts or feelings if he/she really wanted to.
5.	I believed my (father/mother) could have snapped out of it if (he/she) really wanted to.
6.	I always knew when my (father/mother) was going to behave in these ways.
7.	I believed I could control my (father's/mother's) problematic behaviors, thoughts or feelings by my own actions, by my acting in a certain manner.
8.	I believed my (father's/mother's) problematic behaviors, thoughts or feelings were deliberate.
9.	I believed my (father's/mother's) problematic behaviors were unpredictable.
10.	I blamed myself for, or thought I caused, my (father's/mother's) problematic behaviors, thoughts or feelings.

The Adult Children of the Mentally Ill-Attribution Scale

In an effort to assess the internal consistency of the instrument, exploratory correlation coefficients were calculated comparing responses among selected paired question stems. Correlations were calculated

using all of the respondents' scores for each stem. The initial exploratory correlations were calculated by pooling the respondents' answers to the ACMI-AS across the time periods. This analysis was completed in order to establish trends within the data and to highlight possible relationships among the attribution stems. The results provided a foundation for a subsequent factor analysis.

Table 2. ACMI-AS Intercorrelations

	Stem 01	Stem 02	Stem 03	Stem 04	Stem 05	Stem 06	Stem 07	Stem 08	Stem 09	Stem 10
01		-.413***	-.111	.548***	.630***	-.072	.143	.609***	.135	.367***
02			-.106	-.408***	-.378***	.217*	-.255**	-.548***	-.198*	-.425***
03				.152	.113	.111	.152	.002	-.146	.113
04					.789***	-.094	.199*	.606***	.081	.436***
05						-.105	.225*	.697***	.093	.493***
06							.058	-.088	-.391***	-.125
07								.359***	.268**	.614***
08									.243**	.548***
09										.238**
10										

* p < .05, ** p <.01, *** p < .001

Stem number one (the parent behaved in these ways because of a characterological problem) was negatively correlated with stem number two (the parent behaved in these ways because of a disease or illness). This modest correlation was in the predicted direction, suggesting that the greater one attributed causality to an illness, the less one attributed causation to a characterological basis.

Stem numbers four and five were correlated. It was predicted that these would be positively correlated, since both were intended to assess the attribution of control. This was a strong correlation, suggesting that these two stems measured a common construct.

Stem numbers four and eight were positively correlated. This result was expected, since both statements assessed the attribution for control. Similarly, stems five and eight were also significantly correlated.

Stem numbers six and nine were negatively correlated, as predicted. The statements addressed attributions of stability/predictability; however, they were countervalenced. The moderate negative correlation suggested that participants responded similarly to both stems.

Stem numbers seven and ten were positvely correlated. This expected result suggested that both stems assessed the participants' belief that they could control their parent's behavior, and blamed themselves for their parent's behavior.

Stem numbers one and eight were positively correlated, suggesting an association between attributions for characterological causation and parental control of the behavior. A similar result was found in the correlations of stems one and four as well as stems one and five. Furthermore, stems two and eight were negatively correlated. This result suggested that the greater the attribution to a biological cause, the less control was attributed to the parent. Additionally stems two and four as well as two and five were negatively correlated, further indicating that biological attributions were associated with less attributed parental control for the behavior.

The above analyses were based on the pooling of all participants' responses. A closer examination of the associations was made by computing the correlations within each time period.

Appendix F presents the intercorrelations of the stems by each time period. Attribution stems one and two remained significantly negatively correlated throughout each time period, except for the "Present" time period. A closer examination of the individual responses revealed that 25 of the 30 participants answered with the lowest score for stem one and the highest for stem two, resulting in a nearly mutually exclusive relationship. Consequently, the lack of a significant variance between these two stems resulted in a non-significant correlation. Therefore, the data suggested that, for 83% of the respondents, holding a strong biological attribution for the cause of their parent's problematic behavior was antithetical to a characterological attribution.

Stem numbers four and five were positively correlated throughout each of the time periods, as were stems four and eight. Stem numbers seven and 10 were also correlated throughout at the $p < .10$ level. However, stem numbers five and eight were not significantly correlated in time period three. Taken together, these results strengthen the support for the internal consistency of the items contained in the ACMI-AS as well as their underlying theoretical constructs. As can be noted, the small sample size and varying number of respondents who were included in each time period appear to have impacted the strength and significance level of the correlations.

In order to determine whether there were underlying factors within the ACMI-AS, a maximum likelihood factor analysis (Lawley & Maxwell, 1971) was performed with a Promax rotation with standardized regression coefficients of the variables on each factor. A chi-square with 18 degrees of freedom was calculated to estimate the number of factors. The results suggested more than three factors; however, given only 10 variables, any more than three factors would not have been stable. Furthermore, the maximum likelihood test suggested three factors. Table 3 presents the factors and their standardized regression coefficients. Table 4 contains the intercorrelations among the factors.

Table 3. Promax Factor Analysis

Attribution Stem	Factor I	Factor II	Factor III
1. . . . mean, lazy, impulsive	-0.10377	0.70658	-0.0978
2. . . . disease or illness	-0.08255	-0.38270	0.26372
3. . . . external event	0.18489	0.13627	0.31871
4. . . . parent could control	-0.06222	0.90415	0.12719
5. . . . parent could snap out	-0.06188	0.98040	0.11901
6. . . . always knew	0.18571	-0.00070	0.57482
7. . . . I could control	1.01604	-0.10566	-0.00060
8. . . . behaviors were deliberate	0.11095	0.69460	-0.14828
9. . . . unpredictable	0.17013	-0.14300	-0.66380
10. . . I caused them	0.49379	0.34212	-0.11549
Mean	.00	.00	.00
Standard Deviation	.98	.96	.81
Eigenvalue	2.42	2.19	.86

Table 4. Factor Correlation Matrix (p=.000)

	Factor 1	Factor 2	Factor 3
Factor 1		.4322	-.3180
Factor 2			-.4543

The reliability of each factor was calculated using Thompson's (1934) method. The reliability of the factor is the variance of the factor. As a result, Factor 1 had a variance of .96, suggesting strong reliability. Factor 2 achieved a reliability score of .92, which also indicated strong reliability. Factor 3 had a weaker reliability of .65. A closer examination of the loadings revealed the characteristics of each factor.

Since this was an oblique factor analysis, it was possible to calculate the intercorrelations among the factors. The results, as noted above in table 4, suggested that all of the factors were significantly

correlated. Factors 1 and 2 positively correlated with each other while they negatively correlated with Factor 3. The suggested meaning of these intercorrelations will be addressed following a discussion of the nature of the factors.

Stem numbers seven and 10 had the strongest loading on Factor 1. Stem seven was intended to assess the participants' level of control they attributed to themselves for their parent's symptomatic behavior. Stem 10 was included to assess participants' attributed self-blame for their parent's behavior. None of the other stems loaded appreciably on this factor. Therefore, Factor 1 appeared to represent an underlying "Internal to Self" attribution.

Factor 2 is most strongly defined by the loadings of stems four and five, which were designed to tap participants' attributions of parental control over the symptomatic behavior. Stem number eight also loaded moderately on this factor, which further defined this factor as highlighting parental control. It is noteworthy that stem one also moderately loaded on this factor. Stem one is the Internal-Characterological attribution. The weak, negative, loading of stem two indicated that the internal aspect of this factor was not positively associated with a biological or illness attribution. To a lesser extent, stem 10 loaded on this factor, suggesting some cross-over between participants' self-blame and parental blame. Taken together, the strong loadings of stems four, five and eight suggested that Factor 2 represents an underlying "Internal to Parent" attribution.

The third and final factor, which is the weakest, was most characterized by the moderate loadings of stems six and nine, which were the stability/predictability attribution stems. To a lesser extent, this factor was also characterized by stems two and three. Stem three was the external attribution stem and stem two was the biological attribution stem. Factor 3 appeared to represent most prominently "Predictability."

The positive correlation found between Factors 1 and 2 suggested that attributions made to a person, whether it is the parent or the child, were associated. Whereas, increases in the predictability of the behaviors was related to lower apparent attributions of control to either parent or child.

Change in Attributions Over Time

By Time Period

In order to identify whether participants' attributions changed from when they first realized their parent was behaving in a problematic manner to the present time period, regression analyses were computed for each factor by time period. In order to control for repeated measures, the analyses were conducted clustering for subject number. The results of these analyses are listed in Table 5 below.

Table 5. Regression Analysis of Time Period on ACMI-AS Factors (Beta Weights Reported)

Independent Variable	Internal to Self Factor I	Internal to Parent Factor II	Predictability Factor III
Time Period	-.423***	-.455***	.380***
R-Squared	.18	.21	.15

$p < .001$

The results of the regression suggest there were significant changes in participants' factor scores across the time periods. The graph presented in Figure 1 illustrates the near-linear relationship between time period and factor scores.

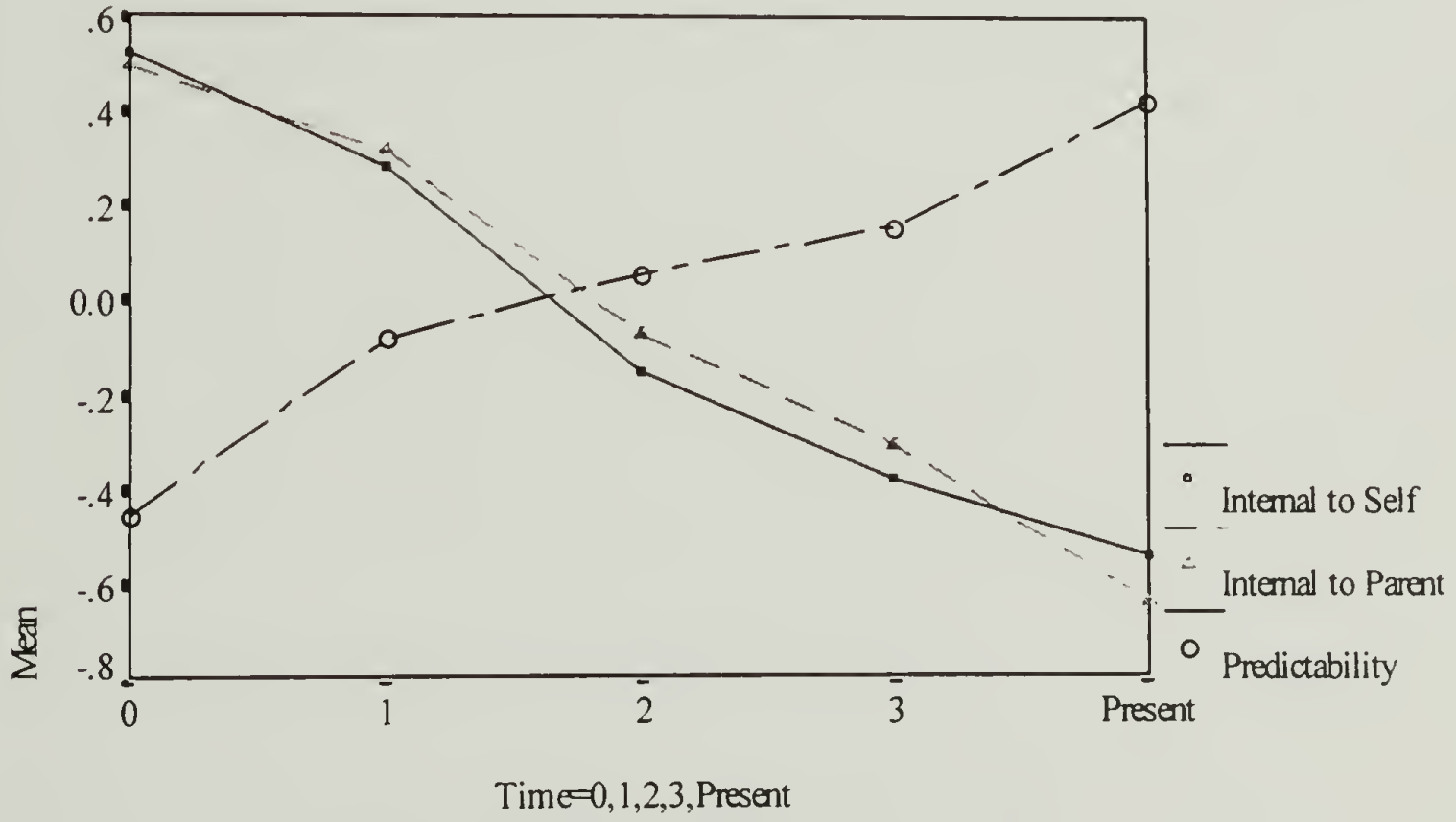

Fig. 1. Attribution Factor Score Means by Time Period

By Age Group

Participants were also grouped by age in order to determine whether attributions changed by age. Four age groups were established: 0 to 7 years, 8 to 14 years, 15 to 21 years, and 22-plus years. The distribution of participants in each group was as follows: 0 to 7 (n = 15), 8 to 15 (n = 37), 16 to 21 (n = 45), and 22-plus (n=27). A regression on the factors for age group was computed in order to determine whether there were significant changes in participants' attributions as a result of age (see Table 6).

Table 6. Regression Analysis of Age Group on ACMI-AS Factors (Beta Weights Reported)

Independent Variable	Internal to Self Factor I	Internal to Parent Factor II	Predictability Factor III
Age Group	-.400***	-.363***	.22*
R-Squared	.15	.13	.05

*p < .05, ***p < .001

The results of the regression analysis indicated that participants' attributions changed based upon age group. It is noteworthy that age accounted for more variance in both Internal to Self and Internal to Parent factors than the Predictability factor. Furthermore, the relationship was stronger, as noted by the beta weights. Figure 2, below, depicts the change in factor scores by age group.

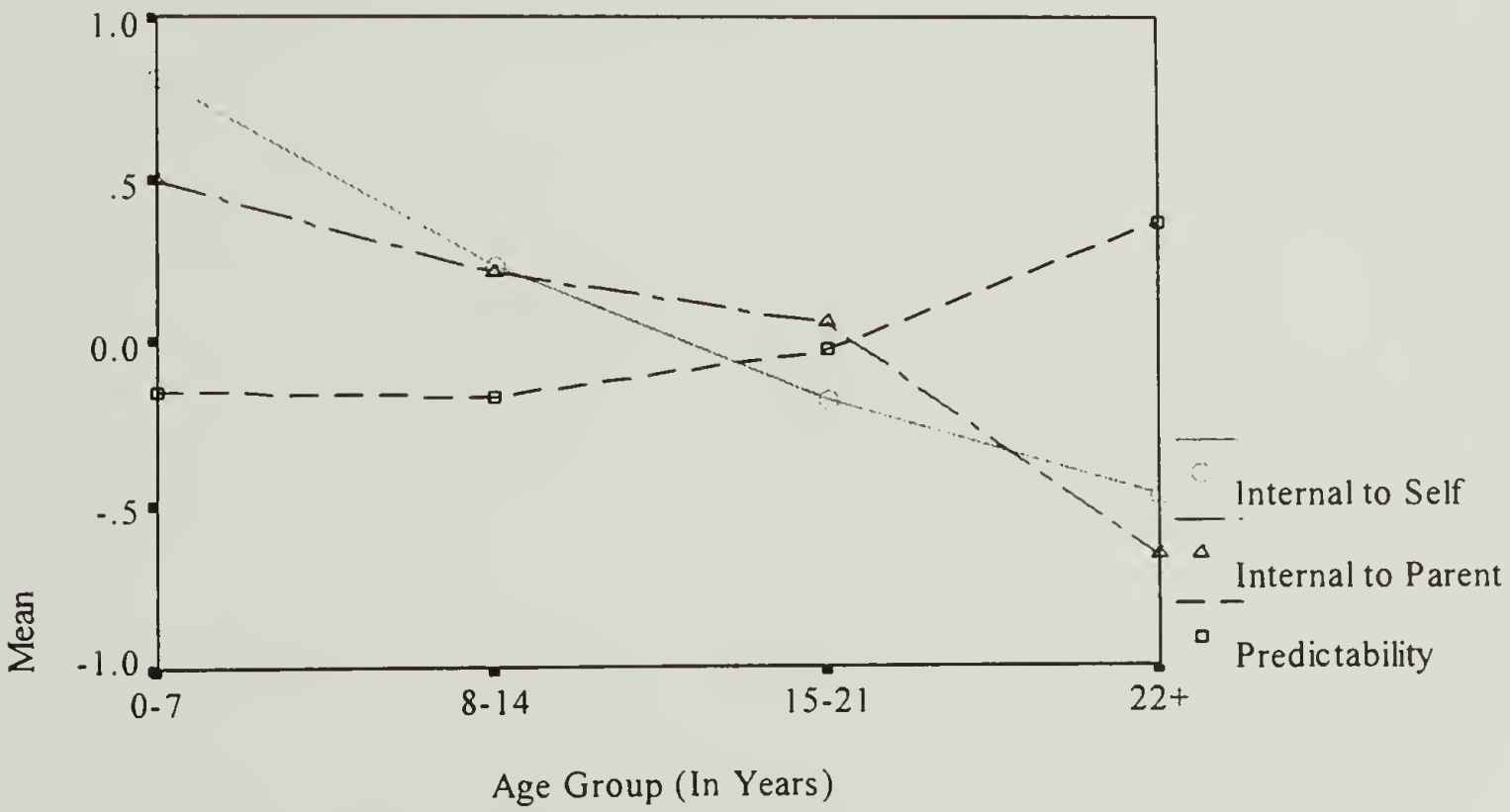

Fig. 2. Attribution Factor Score Means by Age Group

Taken together, the results suggested that several of the participants' attributions changed from when they first realized their parent was behaving in a problematic manner to the present time. This finding indicated that, over time, participants' understanding and beliefs about the cause of their parent's symptomatic behavior changed. Furthermore, the significant differences in attributions by age group suggested age is also a factor in the attributions made.

Attributions and Coping

In an effort to assess the participants' level of coping at each time period, a series of quantitative questions were included in the questionnaire. These questions included participants' performance in school and/or work, which was scored on a four-point scale (1 = Poor or Fs -Ds, 2 = Fair or Ds - Cs, 3 = Good or Cs to Bs , and 4 = Excellent or Bs to As). Participants were also asked whether or not they were in trouble at school or with the legal system. Lastly, they were asked whether they were diagnosed with a mental illness at that time period.

Correlations within each time period were completed with the performance in school/work data. There were no significant correlations between grades/work performance and factor scores at any of the time periods.

ANOVAs were then computed within each time period for the following variables: Drug and alcohol use, diagnosed with a mental illness, trouble in school, and trouble with the law. Each of the independent variables was dummy-coded. For example, comparisons were made between people who had used drugs versus those who had not in that time period. The results of these analyses are presented below by time period.

Time Period 0

No significant differences were found in any of the factors for the independent variables.

Time Period 1

Participants who had been in trouble with the law (n=3) had significantly higher scores on the Internal to Parent factor than those who were not in trouble with the law, $F(1, 27) = 6.7740$, $p=.014$. There were also a couple of nearly significant findings. Participants who had indicated that they had gotten in trouble with the law had lower scores on the Predictability factor, $F(1, 27) = 3.9914$, $p=.055$.

Respondents who stated that they got in trouble in school (n=10) had higher Internal to Self factor scores than those who did not (n = 19), F (1, 27) = 3.6238, p=.067.

Time Period 2

At Time 2 there were no significant differences found at the $\alpha = .05$ level. However, a nearly significant finding was revealed for drug use. Participants who indicated that they used drugs or alcohol at least one time per week (n=10) had higher scores on the Internal to Parent factor than those who did not (n = 14), F (1, 22) = 3.8516, p=.06.

Time Period 3

There were only 11 participants in total who responded to Time Period 3. Contrary to findings at Time 2 and Time 1, participants who indicated drug or alcohol use (n = 9) had significantly lower scores on the Internal to Parent factor than those who did not (n =2), F (1, 9) = 6.5624, p =.03. Additionally, those respondents who stated that they used drugs or alcohol at least one time per week had lower scores on the Internal to Self factor, F (1, 9) = 34.8856, p =.00.

Time Period Present

No significant differences were found.

ACMI-AS Factor Associations with Self-Efficacy and Self-Esteem

The results of the correlations between the factors and measures of present functioning is limited to Time 0 and Present (see Table 7 below), because these were the only two time periods in which all of the respondents appeared.

Table 7. Intercorrelations of Self-Efficacy and Self-Esteem Measures with Factors at Time 0 and Time Present

	Factor I[a] Internal to Self	Factor II[a] Internal to Parent	Factor III[a] Predictability	Factor I[b] Internal to Self	Factor II[b] Internal to Parent	Factor III[b] Predictability
GSE	-.1643	-.2459	.0125	.3227*	-.0845	.0243
SSE	-.4335**	-.4455**	.2270	-.1009	-.3505*	.3554*
Self-Esteem	-.2769	-.5386***	.2779	-.1804	-.3276*	.2663

* $p < .10$, ** $p < .05$, ***$p < .01$
[a] Time = 0, [b] Time = Present

General Self Efficacy (GSE)

A significant positive correlation was found between respondents' General Self-Efficacy and Internal to Self scores at the present time period. A closer examination of this result was taken via a regression analysis in order to establish which of the attribution stems contributed significantly to this relationship.

Table 8. Regression Analysis of GSE by Attribution Stems 7 and 10 at Time Present (Beta Weights Reported)

Independent Variables	GSE
Stem 7	.38*
Stem 10	-.07
R-squared	.12

* $p < .10$

The results of the regression analysis (see Table 8 above) suggested that stem seven (. . . I could control my parent's behavior by my own actions) is the major contributor to this relationship, as revealed by the correlations calculated. This differential analysis is noteworthy because the higher General Self-Efficacy score appeared to be related to the stem, which would highlight a participant's sense that he or she has an impact on his or her environment, rather than the stem that is intended to address self-blame.

Social Self-Efficacy (SSE)

The results in Table 7 suggested that, at Time 0 and Present, Internal to Parent attributions were negatively associated with Social Self-Efficacy. At Time 0, higher Internal to Self scores were associated with lower current Social Self-Efficacy. When a regression analysis was computed on this result, it was found that both stems seven and 10 contributed equally. Finally, at Time Period Present, greater scores on the Predictability factor were associated with higher current Social Self-Efficacy.

Self-Esteem

Table 7 presents the results of the intercorrelations between participants' scores on the Rosenberg Self-Esteem scale and their factor scores at Time Period 0 and at Present. There was a significant negative correlation between self-esteem and Factor 2 at both time periods. This result suggested that participants whose early attributions were characterized by parental control tended to have lower present self-esteem, and those who continued to have higher Internal to Parent attributions had lower self-esteem scores.

Table 9 presents the intercorrelations of participants' BSI scores and their factor scores at Time Period 0 and Present.

Table 9. Intercorrelations of BSI and Factors at Time = 0 and Time = Present

	Factor I[a] Internal to Self	Factor II[a] Internal to Parent	Factor III[a] Predictability	Factor I[b] Internal to Self	Factor II[b] Internal to Parent	Factor III[b] Predictability
ANX	.3051	.3499*	.0386	.2195	.4000**	.0104
DEP	.4598**	.4525**	-.1712	.2421	.2969	-.0891
HOS	.3574**	.1210	.2306	.0137	.1494	.0782
IS	.5714***	.5571***	-.0712	.3354*	.3220*	-.0249
PAR	.4103**	.1957	-.1134	.1701	.1687	.0300
OC	.2311	.5300***	-.1618	.1507	.3613**	-.0661
PHOB	.1635	.2853	-.1549	.0204	.2292	-.2557
PSY	.3230*	.4242**	-.1573	-.0858	.3701**	-.1096
SOM	.1616	.3825**	-.3710**	.1693	.1845	-.3567**
GSI	.4569**	.4874***	-.1002	.1755	.3699**	-.0671
PSDI	.2412	.0724	.0621	.2407	.0605	.0064
PST	.4494**	.5328***	-.1463	.0942	.3941**	-.1501

* p < .10, ** p < .05, ***p < .01
[a] Time = 0, [b] Time = Present

Anxiety (ANX)

Both at Time 0 and Present, participants who attributed greater control to their parents had higher scores on the Anxiety subscale of the BSI.

Depression (DEP)

Significant positive relationships were found at Time 0 between Depression and attributions to either self or parent.

Hostility (HOS)

Higher Hostility ratings were associated with greater attributions to Internal to Self at Time 0. These results suggested that early beliefs that the cause was located within the child were associated with greater levels of current anger toward others.

Interpersonal Sensitivity (IS)

Both at Time 0 and Present, significant associations were found between participants' IS subscale scores and Internal to Self and Internal to Parent factor scores. Taken together, these results suggested that

greater personal control and parental control attributions were associated with increased interpersonal sensitivity, regardless of time. However, the relationship was stronger at Time 0, as noted by the higher level of significance and larger correlation coefficient.

Paranoid Ideation (PAR)

Only initial attributions on the Internal to Self factor were associated with higher scores on the Paranoid Ideation subscale.

Obsessive Compulsive (OC)

Participants with higher Internal to Parent factor scores also had higher scores on the Obsessive Compulsive subscale at both time periods.

Phobic Anxiety (PHOB)

There were no significant correlations at Time 0 or Present between the factors and Phobic Anxiety scores.

Psychoticism (PSY)

Participants at both Time 0 and Present with higher scores on the Internal to Parent factor had higher scores on the Psychoticism subscale, whereas only at Time 0 did greater Internal to Self factor scores correlate with higher present Psychoticism scores.

Somatic (SOM)

Somatic complaints were lower both at Time 0 and Present, with greater attribution for Predictability. At Time 0, greater attributions to parental control were associated with higher present scores on the Somatic scale.

Global Severity Index (GSI)

Participants at both Time 0 and Present who made greater attributions to parental control had higher GSI scores. Additionally, respondents who had higher Internal to Self factor scores in the Present time period had higher GSI scores.

Positive Symptom Distress Index (PSDI)

No significant correlations were found between the PSDI and the factors at Time 0 and Present.

Positive Symptom Total (PST)

Participants who made greater attributions to parental control had a greater number of symptoms marked on the BSI at both time periods. Furthermore, initial attributions to self were associated with a greater number of symptoms.

Synthesis

Overall the results of the correlations between the factors of the ACMI-AS and measures of current functioning suggested a pattern in which greater attribution to self or parent was associated with generally greater amounts of psychopathology, lower Social Self-Efficacy, and lower Self-Esteem. Furthermore, there is a slight trend suggesting that greater Predictability factor scores were associated with greater levels of Social Self-Efficacy and lower levels of Somatic complaints.

Attributions and Protective Factors

The factors were correlated with several variables, which, based on previous research (Feldman et. al , 1987; Beardslee & Podorefsky, 1988; Marsh et al., 1993; and Werner, 1993), had been identified as protective factors for children of the mentally ill. These protective factors included family discord, external supports (Feldman et al., 1987); amount of information about the mental illness (Marsh et al., 1993); and number of friends (Beardslee & Podorefsky, 1988). Data on each of these variables was collected at each Time Period (0, 1, 2, 3 and Present). This data will be presented, highlighting the significant correlations at each Time Period. It is noteworthy that family discord was measured using the same method employed by Feldman et al. (1987), in which higher scores indicated a lower amount of family discord.

Time Period 0

A positive relationship was found between initial attributions for Predictability and overall family discord ($r=.3828$, $p=.037$) and discord with father ($r=.3956$ $p=.05$, $n=25$). However, higher scores on the Internal to Parent factor were negatively associated with family discord ($r=-.5856$, $p=.001$, $n=30$).

Time Period 1

The largest number of significant correlations among the variables were found at Time 1. Higher Predictability factor scores were associated with less family discord and less discord with fathers, ($r=.5236$, $p=.005$, $n=27$) and ($r=.6023$, $p=.003$, $n=22$) respectively. A positive correlation was also found between the

amount of information participants reported they had about mental illness and scores on the Predictability factor (r=.4290, p=.020, n=29). Similarly, participants who reported more friends scored higher on the Predictability factor (r=.6142, p=.000, n=29). While increased attributed Predictability was positively associated with these variables, increased Internal to Parent factor scores were negatively associated with overall family discord (r=-4036, p=.037, n=27); information about mental illness (r=-.4296, p=.020, n=29); and number of friends (r=-.4143, p=.025, n=29).

Time Period 2

Participants who had greater scores on the Predictability factor at Time 2 had better relationships with their fathers (r=.5310, p=.042, n=15).

Time Period 3

There were no significant correlations among the variables.

Time Period Present

The only significant correlation found was between the number of friends reported by the participants and the Internal to Self factor score (r=-.3654, p =.047). This result suggested that a participant's number of friends decreased with greater attributions toward oneself for the cause of the parent's behavior.

ACMI-AS Factor Scores and Support Outside the Home

The impact on attributions of whether or not participants had a supportive person outside their immediate family was examined both at each Time Period and by pooling the data. At Time 0, participants who had outside support (n=12) had significantly lower factor scores on the Internal to Parent factor than those without support (n=18), F (1, 28) = 7.5056, p =.01. At Time 1, participants who indicated they had an outside support (n=14) had higher scores on the Predictability factor than did those without support (n=15), F (1, 27)= 4.1574, p=.05. There were no differences found at Time Periods 2, 3, or Present. When all of the data was pooled and ANCOVAs were calculated, covarying for age at time (maturity), significant differences were found for both Internal to Self and Internal to Parent factors; however, once adjusted for maturity, there were no significant differences in the Predictability factor score (see Table 10 below).

Table 10. Analysis of Covariance: ACMI-AS Factors by Outside Support-Covaried by Age at Time

	Internal to Self			Internal to Parent			Predictability		
Source	Adj. df	Adj. MS	F+	Adj. df	Adj. MS	F+	Adj. df	Adj. MS	F+
Regression	1	7.17	9.65*	1	9.37	25.73*	1	3.79	12.05*
Support	1	6.42	6.76*	1	8.27	11.16*	1	1.94	2.73
Within + Residual	121	.81		121	.73		121	.59	
Total	123	.96		123	.92		123	.65	

*$p < .05$

+ F tests corrected for repeated measures using White (1980).

Since support outside one's immediate family was a significant protective factor in previous research, data was collected regarding the source of support provided to participants in this study. Table 11 provides the descriptive data by Time Period on participants who indicated that they had received support.

Table 11. Source of Support by Time Period (Participants Receiving Support)

	Time 0	Time 1	Time 2	Time 3	Present
Contemporary	0	2 (14.3%)	6 (37.5%)	4 (57.1%)	10 (40%)
Adult Friend	5 (41.7%)	3 (21.4%)	4 (25%)	0	0
Teacher	1 (8.3%)	1 (7.1%)	0	0	0
Relative	4 (33.3%)	5 (35.7%)	4 (25%)	0	2 (8%)
Clergy	0	0	1 (6.25%)	0	0
Mental Health Professional	2 (16.7%)	3 (21.4%)	1 (6.25%)	2 (28.6%)	6 (24%)
Other				1 (14.3%)	7 (28%)

The data presented in Table 11 suggested that participants who stated they received support outside their immediate families received the majority of their support from individuals who were not mental health professionals. This data indicated that, in the earlier Time Periods, support most often came from an adult outside the family, while, as time progressed, participants obtained more support from peers and mental health professionals.

Regression of Age of Participants, Time From First Realization, Amount of Information, and Outside Support on the ACMI-AS Factors

In order to examine the predictive value of specific independent variables to the underlying factors of the ACMI-AS, separate regression analyses were conducted for each of the factors. Table 12 below shows the results of the regression analyses.

Table 12. Regression Analysis of Variables on Factors of ACMI-AS
(Beta Weights Reported)

Independent Variables	Internal to Self Factor I	Internal to Parent Factor II	Predictability Factor III
Time	-.336***	-.229*	.097
Age of Participant	.354***	.083	-.049
Information	-.066	-.207	.348**
Outside Support [a]	-.173*	-.224**	.066
R-squared	.309	.281	.208

*p<.10, **p<.05, *** p< .01
[a]1=Yes 0=No

The Time Periods were recoded to better reflect the number of years since first realization. The Age of Participant was the present age of the participant in the study. The Information variable was intended to measure the subjective amount of information about mental illness reported by the participants at each Time Period. Outside Support was a categorical variable intended to identify whether or not participants received any support from people outside their immediate family.

Table 12, column 1, illustrates that, the closer the respondents were to their first realization that their parent was behaving in a problematic manner, the greater the Internal to Self attribution. Older participants in the study tended to have greater levels of Internal to Self attribution than did younger participants. Support from outside the family was predictive of less Internal to Self attribution, and the results suggested that participants without support tended to blame themselves more for their parent's behavior. Column 2 indicates that time from first realization was a significant predictor variable for Internal to Parent factor scores. The greater the time since initial realization, the less the attributed parental control. Furthermore, support from outside the family was predictive of lower Internal to Parent factor scores. The amount of information that participants reported was positively related to attributions for Predictability as noted in column 3.

Qualitative Analysis

At each time period, participants were asked, "When you were this age (or presently) and your parent behaved (behaves) in these ways, what were (are) your beliefs about why your parent was behaving (behaves) like this?" The qualitative section of the study was included in order to obtain a more complete

understanding of participants' beliefs about the cause of their parent's symptomatic behavior. The responses to this question were both audiotaped and noted in writing by the author. These answers were then transcribed onto a computerized data base in order to facilitate the grouping of responses. The responses were then grouped by Time Period. Next, using Weiss' (1994) "issue focused" and "case focused" methodology, the participants' statements were reviewed and classified as follows: Characterological, Biological/Illness, External, Parental Control, Self-Blame, Multiple, Confusion, or Unclear. The first five categories closely followed the attributional framework, while the "Multiple" category was assigned when a participant's statement included more than one attribution. The "Confusion" category was assigned whenever a participant made a statement such as "I didn't understand" and no clear attribution was made. The "Unclear" category was assigned when a participant's answer was not causal in nature.

The qualitative data will be presented according to Time Period and category. Additionally, the frequency of the different categories of answers will be noted.

Time Period 0

Self-Blame was the most prevalent belief offered in Time Period 0 (n=13), followed by Confusion (n=5), and Illness (n=4). Many of the respondents' answers clearly highlighted their early beliefs that they caused their parent's behaviors.

"Mostly [I thought I] was doing something wrong to cause this" (participant at age 6 years). Two participants stated, "I thought there was something wrong with me." It is noteworthy that one of these participants was 10 years old and the other was 16. Another participant offered that, at the age of eight years, she thought, "He wasn't happy with us . . . I felt responsible."

Confusion was another frequent theme among the participants' responses at the first Time Period. "I didn't understand [why she behaved this way]." "At the time, I couldn't understand it." "I was dumbfounded . . . It was very confusing."

Four participants stated that they believed their parent was "sick." For example, "I believed what my family told me . . . that my mother wasn't feeling well and had to go to the hospital." One stated, "We

knew she was sick." Another said, "I just thought she was sick. I knew that when I was sick, I didn't act the same way as when I was well."

Four participants attributed the behaviors to external causes. "I thought it was because my step-father was cheating on my mother." Similarly, another participant stated that it was "[my mother's behavior was] because of my father." Furthermore one participant stated, "I thought she was just frustrated from being in a bad marriage."

Four participants offered Unclear responses. They often stated, "That was the way she was."

Time Period 1

In Time Period 1, eight participants made statements attributing the cause to an illness. Six of the participants made self-blaming statements. For example, a participant recalled at age 10 thinking, "It was my fault." Another participant indicated that she felt blamed. "She wasn't having many behaviors, no big ups or big downs. If it did happen, she'd be irritable like I had done something wrong to her." One participant recalled what she thought at age nine, stating, "I thought I was a rotten kid. If I could be nicer, do better in school, then she wouldn't go off the deep end."

Five participants made characterological attributions. A respondent recalled that at age 11, she believed her mother was "an idiot . . . she was making our lives miserable. I was mad and disgusted." A participant remembered that, at the age of 15, she thought her mother ". . . was weak and didn't care about me. She was lazy." Another participant stated, "I thought he was angry."

In this time period, the first mention of chemical imbalance was made: "When I was 18, I knew exactly what was going on . . . I knew she had a chemical imbalance." Many participants simply stated "[she] was mentally ill."

One respondent attributed the behavior to parental control. "Around then I began wondering . . . [whether] she might be doing this on purpose, whether she had any control over it."

Six of the respondents were unclear in their beliefs or resigned to the behaviors. For example, one participant stated, "That's the way she was." The search for understanding was illustrated by one participant's response: " I understood she'd been through a traumatic childhood . . . I didn't buy the idea that it was biological [and] I knew she was diagnosed schizophrenic."

Another participant's confusion and search for answers was noted by her response: "I started thinking about it a lot. The question 'why' was very present."

Time Period 2

None of the participants made self-blaming answers in Time Period 2. Twelve of the respondents attributed the cause to an illness, for example stating, "He was mentally ill," "he was sick," or "this is when I started to realized this was a bio-chemical thing." Four of the respondents made external types of attributions: "I blamed it on the role of mother." One woman recalled that, at the age of 14, she thought, ". . . something triggered her . . . something happened in her life that was too hard to deal with . . ." Another participant remembered thinking that it was because their "father abandoned us."

Time Period 3.

Eight of the participants who responded in Time Period 3 made biological/illness attributions. At the age of 20, a participant remembered thinking, "He was ill," and another recalled believing the behaviors were "because she was sick." Self-blame lingered for one participant, who remembered believing, "If I behaved better, he would feel better." One male participant recalled that, at the age of 21, he thought "it was something she could control."

Time Period Present

In the Present Time Period, most (n=23) of the statements focused on Illness as the root cause. A 25-year-old woman stated, "I believe it is a mental illness, which I didn't before." Another participant who was 34 years of age stated, "I look at it from a medical model, chemical imbalance and need for medications. I better understand her behavior. I can name it now."

However, a few of the participants offered a multiple causation answer. For example, a 43-year-old man stated that it was ". . . very complex, a lot to do with the culture, gender roles, conditioning, expectations." Another participant offered, " . . . [The beliefs] are more complicated now. I believe there is a biological cause but also societal factors."

Summary

The results offered tentative support to the validity of the ACMI-AS in that the underlying factors within the instrument were aligned with the intended attributional dimensions of the stems. Furthermore,

the data suggested that attributions changed over time for participants. The results suggested that there may be an association between attributions and coping; however, the variability of these results calls for caution in interpretation. The data indicated that the factor scores were associated with measures of present functioning. The pattern of these relationships suggested that person-orient attributions were associated with increased psychopathology, decreased self-esteem and decreased Social Self-Efficacy. Furthermore, increased Predictability factor scores were associated with less Somatic complaints and increased Social Self-Efficacy. The data further suggested that changes in attributions were not only a result of the passage of time. Rather, support from people outside the family and information about mental illness were significant factors as well. The brief qualitative analysis also highlighted the changes in attributions, as captured in participants' own statements. The following chapter will discuss the significance of these results in relationship to the literature, the implications and limitations of the study, and areas for further research.

CHAPTER V

DISCUSSION

Summary of the Study

This dissertation study examined the causal attributions made by children for their severely mentally ill parent's symptomatic behaviors. A retrospective methodology was used in order to explore whether participants' recalled attributions changed from the first time they realized their parent was behaving in a problematic manner to the present time. This study also explored the associations between the attributions and participants' level of coping and their resiliency, as defined by their present functioning.

Where previous research on attributions and families of the mentally ill focused primarily on parents, spouses and siblings (Brewin et al., 1991; Greenberg, Kim, & Greenly, 1997; Medvene & Krauss, 1989; Robinson, 1996), the present study expanded this research into the area of children of the mentally ill. Based upon the review of the literature, this study is among the first to apply a quantitatively-based attributional framework to understanding the experiences of children of the severely mentally ill.

As elaborated below, the results of this study lend support to the use of an attributional framework in the study of children of the mentally ill. The data gathered using the Adult Children of the Mentally Ill-Attribution Scale indicated reasonable internal consistency and tentative validity. The intercorrelations of the attribution stems were also in the expected directions. The underlying factors culled from the responses to the ACMI-AS highlighted two factors with strong reliability and one factor with moderate reliability. The data further suggested that participants' attributions significantly changed from their initial realization to the present time. The analysis also indicated that maturity was not wholly responsible for this change in attributions; rather, the subjective amount of information concerning mental illness and extra-familial support were both significant contributing factors. The results of the analyses between attributions and coping as well as between attributions and resiliency suggested that a relationship exists between these variables.

The following discussion will highlight the degree to which the findings of this study addressed the initial research questions. The implications of the findings and areas of further research conclude this section.

The Adult Children of the Mentally Ill-Attribution Scale

One of the objectives of this study was to evaluate further the Adult Children of the Mentally Ill-Attribution Scale as a tool to assess the causal attributions of offspring of the severely mentally ill. The ACMI-AS was developed expressly for this study, based upon both previous researchers' work (Medvene & Krauss, 1989; Tessler, no date) and a pilot study conducted by this author. While the results are based on a small sample, the many significant correlations among the attribution stems suggest internal consistency and tentative validity. Furthermore, the factor analysis revealed two highly reliable factors and a third, weaker, factor.

Medvene and Krauss (1989) and Terkelsen (1987) highlighted the distinction between characterological attributions (i.e., the mentally ill person is lazy, or mean), and biological attributions, such as attributing symptomatic behaviors to an illness. This distinction was also apparent in the exploratory analysis of the ACMI-AS. For example, the stems that focused on internal-characterological versus internal-biological causal attributions were negatively related. This result suggested that increased biological attributions were antithetical to characterological attributions. Furthermore, when this relationship was examined at each time period, it remained consistent. In fact, the results suggested that, in the present time period, characterological and biological causal attributions were nearly mutually exclusive.

The amount of control attributed to a parent for their symptomatic behavior has also been emphasized in the literature (Greenberg et al., 1997; Robinson, 1996). This attributional dimension was reflected in the current study by three stems contained in the ACMI-AS. The exploratory analysis also revealed that the stems constructed to tap participants' attributions for parental control of the symptomatic behavior were associated with each other. In fact, most of these intercorrelations persisted across the time periods. However, further investigation is necessary in order to determine whether fluctuations in the relationships among these three stems is attributable to the semantic differences in the stems.

Brewin et al., (1991), Terkelsen (1987), and Medvene and Krauss (1989) all suggested that causal attributions that emphasized a characterological causation were also associated with an attribution of a greater level of control. Weiner (1995) also reported that the more an illness is attributed to a dispositional quality, the greater the amount of control attributed to that person. The results in this study support this

previous research. The significant intercorrelation between the characterological attribution (Stem 1) and parental control (Stems 4, 5, and 8) indicated that, for the participants in this study, characterological attributions were associated with greater attributed control to the parent.

Anthony (1969) suggested that children who were included in parental symptomatology fared worse than those who were not. Similarly, Beardslee and Podorefsky (1988) suggested that children who were unable to distance themselves from their parent's mental illness did not function as well as those who did. Thus, it became essential to assess the level of self-blame and personal control attributed by the participants. The results indicated that the stems included to tap these attributions were consistently associated.

The chaotic nature of growing up with a severely mentally ill parent has been noted by several researchers (Bleuler, 1974; Dunn, 1993; Keitner & Miller, 1994). In an effort to quantify this experience, the attributed predictability/stability of the parent's behavior was assessed by including two stems focused on this dimension. The results suggested that these two stems were moderately correlated.

Overall, the exploratory analysis of the ACMI-AS lent support to its validity, and provided the foundation for a factor analysis of the ACMI-AS in order to establish underlying factors.

Attribution Factors

The factor analysis of the ACMI-AS revealed three factors. The first factor was the Internal to Self factor, which purported to measure the level of personal control participants perceived to have over their parent's behavior. This factor had a strong loading for Stem 7 (". . . I could control my parent's problematic behaviors by my own actions . . .") and a moderate loading for Stem 10 ("I blamed myself . . ."). These items had face validity for internal to self and self-blame attributions, which was further supported by the factor analysis. This Internal to Self factor was a significant finding in that it provided a means to assess the level of involvement participants felt in their parent's symptoms.

The second was the Internal to Parent factor, which purported to measure the participant's perception of the amount of control the parent had over his or her own behavior. The analysis lent additional support to the earlier intercorrelations of Stems 4, 5, and 8, which loaded strongly on this factor. Furthermore, the strong loading of Stem 1 (internal-characterological) coincided with the earlier

intercorrelations as well, reflecting previous research (Terkelsen, 1987). The importance of this factor was noted by several studies, which highlighted the impact of attributed control to the quality of relationships between the mentally ill family member and relatives. Robinson (1996) and Brewin et al. (1991) reported results that associated greater control attributed to the mentally ill family member with greater hostility and increased family discord.

The third factor has been named the Predicatability factor; which was purported to measure the participant's perceived ability to predict his or her parent's symptomatic behavior. This was the weakest factor with only moderate loadings. This factor also had two variables that loaded at a weak to moderate level, which further clouded the theoretical construct of the factor. However, it is noteworthy that the four stems that loaded on this factor were not person-focused, rather they were illness-related and external to the parent. This detail differentiated this third factor from the previous two. The importance of this differentiation will be highlighted below in the discussion of attributions and resiliency.

The ACMI-AS was designed to include five attributional dimensions: Internal/Characterological - Biological, External, Stability/Predictability, Parental Control, Personal Control/Self-Blame. However, the results of the analyses of the instrument revealed only two strong dimensions and a weaker third. Given the importance of the biological attribution versus the characterological attribution (Medvene & Krauss, 1989), further development of the ACMI-AS is indicated. Lengthening the instrument to include several stems per attributional dimension would allow for additional tests on the psychometric properties of the ACMI-AS (Carmines & Zeller, 1979). Furthermore, while the intercorrelations and the factors lent support to the proposed conceptual constructs underlying the instrument, a significant next step in the development of the ACMI-AS would be to place it under the scrutiny of judges knowledgeable of attributional frameworks. This proposal would help establish whether raters would categorize the stems in the same manner as this author.

Attributions by Time Period and Age Groups

One of the questions posed in this study was whether participants' causal attributions changed over time. In order to address this question, the participants were asked to rate their attributions at several different times in their lives. The results supported the prediction that the attributions would change. The

results illustrated a near-linear relationship between time and attributions as well as between age and attributions. Covell and Abramovitch (1987) and Celano (1992) posited that younger children attributed greater personal control to themselves for the actions of others than did older children. This study illustrated a similar finding for participants' Internal to Self attributions. That is, the younger age groups had higher scores on this factor than did the older age groups. Hoagwood (1990) suggested a parallel finding in her retrospective study of women who were sexually abused as children. She found that the women often blamed themselves for the abuse when they were children; however, as adults, this pattern shifted and they tended to blame the abuser and the non-abusing parent. Hoagwood suggested this finding may have resulted from adults' increased ability to differentiate causation.

A similar change was also found in participants' attribution for parental control. This finding suggested that both at the older age groups and as time passed since initial realization, participants believed their parents to be in less control of their symptomatic behaviors. At the same time, attributions for predictability increased, suggesting that participants felt they were better able to predict their parent's symptomatic behavior.

The qualitative data gathered in the present study also supported the quantitative findings. As noted, the majority of early attribution statements made by participants were self-blaming in nature; however, over time, increased biological/illness attributions were noted. It is significant that several of the respondents appeared to recall biological attributions at earlier Time Periods, and that self-blame statements quickly tapered off. One possible explanation for this finding is that people's recollections of their beliefs were strongly influenced by their current attributions. Another possibility is that a forced choice design such as that in the quantitative section was more likely to elicit self-blame beliefs than open-ended questions. Healy et al. (1993) reported a similar occurrence in their study of children's attributions for parental divorce. They stated that self-blame was more prevalent in their "forced-choice" procedure than their open-ended one.

It is also noteworthy that significant variation was found in the data despite the fact that respondents were asked repeatedly to fill out the same instrument. This finding suggested that the participants did not fall into a response set, and that their responses did represent a change over time.

Attributions and Coping

One of the central questions of this study was whether there was a relationship between attributions and coping. Previous research suggested that this might be the case (Beardslee & Podorefsky, 1988). The efforts of this study to quantify this relationship demonstrated equivocal results. School and job performance self-ratings were not significantly correlated with the factor scores. And the results of the analysis of factor scores by trouble in school, trouble with the law, drug and alcohol use, and diagnosed mental illness further illustrated the equivocal nature of the findings. The apparent contradictory findings across the time periods did not provide definite support to the prediction that attributions and coping would be associated. However, certain data did support further investigation of this question.

Participants who were in trouble with the law and those who were in trouble at school at Time Period 1 had higher scores on the Internal to Parent and Internal to Self factors. This finding corresponded with the conclusions by Beardslee and Podorefsky (1988), who found that adolescents who felt more responsible for their parent's mental illness had lower adaptive scores. Similarly, Robinson (1996) suggested that any attribution to a person was related with lower family functioning. The noted finding in the present study may have suggested a similar dynamic. The attributions to either parent or self appeared to be associated with increased coping problems. However, this finding must remain suspect; the method for assessing coping at each time period was crude and did not undergo any psychometric scrutiny. Therefore, further investigation of this relationship is warranted.

Attributions and Present Functioning/Resiliency

Certain data associating attributions and current functioning indicated that participants' attributions were related to resiliency at the initial realization time and at present. Generally, the results suggested that attributions to a person, whether it was toward the parent or the child, were associated with greater psychopathology, lower self-esteem, and lower Social Self-Efficacy. Attributions of greater Predictability were associated with lower Somatic complaints and increased Social Self-Efficacy. Furthermore increased General Self Efficacy was associated with greater Internal to Self attributions in the Present Time Period. While this finding initially appeared contradictory, a closer examination of this result revealed another possible conclusion. The greater contribution of Stem 7 (". . . I could control my parent's behavior by my

own actions . . .") suggested a sense of mastery and control over one's environment. This result was suggestive of Anthony's work (1983), in which children who were able to manage their parent's psychotic behavior tended to exhibit less behavior problems. This finding highlighted an area for further research, (i.e., whether beliefs in control over parental behavior may be associated with increased sense of mastery). The present results were suggestive of previous research, which indicated that internal/controllable attributions to the actor (in this case, the child) were associated with increased effort (Dweck, 1975) and self-concept (Janoff-Bulman, 1992).

The amount of parental control attributed by participants, both at initial realization and at present, was associated with several indicators of psychopathology. This finding was in keeping with previous research on attributed control. Greenberg et al. (1997) found that increased attributed control was associated with increased subjective burden as well as increased fears that the mentally ill sibling was at risk of harm to self or others. Attributions of control have been also been linked to a sense of over-involvement on the part of family members (Brewin et al., 1991; Robinson, 1996). Additionally, Beardslee and Podorefsky (1988) suggested that greater emotional distance was associated with better functioning. The results of the present study extended this previous work and supported the contention that person-focused attributions were related to poorer functioning. However, a short-coming of this study was the lack of ability to determine directionality in the relationships. It is possible that the attributions of the participants were a result of underlying psychopathology rather than the reverse.

Feldman, Stiffman, and Jung (1987) suggested that family discord and the relationship between the child and the mentally ill parent were predictors of resiliency. The results of this study suggested that family discord was associated with greater person-focused attributions. These results corresponded to the work of Medvene and Krauss (1988) and Brewin et al. (1991), in which family interactions were more hostile when attributions were characterological and personal. Robinson (1996) found a similar relationship in her study.

The positive correlation between Predicatability and the Social Self-Efficacy score may be suggestive of qualitative differences in the symptoms of the parent or, perhaps, an increase in the child's ability to determine when his or her parent may decompensate. It is noteworthy that this factor included

weak loadings of attribution stems for external and biological causation, which may have indicated an associated increase in the amount of knowledge concerning the course of a mental illness. Furthermore, these weaker loadings may be important because, as reported by Medvene and Krauss (1989), Brewin et al. (1991), and Robinson (1996), external and biological attributions have been associated with better relationships between the mentally ill family member and other relatives. Similarly, this proposition was supported by the findings that causal attributions that were external, biological, and predictable in nature were associated with an increased sense of mastery in social relationships.

Attributions and Protective Factors

One concern that may be raised regarding the findings in the present study was whether the changes in attributions were simply an artifact of maturation and time. The results of the study suggested otherwise. Time from first realization appeared to be a significant factor in the changes in participants' attributions; however, the amount of information as well as support from outside their immediate family were also significant factors. These findings suggested that it was not only the passage of time that changed participants' beliefs about the cause of their parent's symptomatic behavior; additional factors contributed significantly to this change as well. These factors will be examined below.

The present age of the participant was also found to be a significant factor in Internal to Self attributions. This finding initially appeared to be confounding, since it stands to reason that older participants have had more opportunity to learn about mental illness and to gain emotional distance from their parent. However, it is possible that this finding was more closely associated to the theories about the causation of mental illness that were prevalent at the time of their parent's onset of mental illness. As noted in the literature review, theories in the 1950s to 1970s (Bateson et al. 1956; Torrey, 1988) were strongly influenced by psychogenic and family-blaming points of view. Therefore, one possible explanation is that the older participants in the present study were more likely to be influenced by these earlier theories than younger participants, who are more likely to have learned of bio-chemical reasons for mental illness. Further research is indicated to assess whether this reasoning is accurate.

Williams and Corrigan (1992) found that adult children of the mentally ill had smaller circles of social supports as adults than did children of normal parents and children of alcoholics. Williams and

Corrigan suggested the need to investigate the experiences of the children of the mentally ill in a more in-depth manner to flesh out the factors influencing their networks of social support. The findings of the present study suggested that increased Internal to Self factor scores were associated with fewer friends in the Present Time Period, and that increased Internal to Parent factor scores were associated with fewer friends at Time Period 1. While the results are equivocal, they add to our understanding of children of the mentally ill. This data also corresponded with the studies by Beardslee and Podorefsky (1988) and Feldman et al. (1987), in which children who were more involved in their parent's mental illness generally functioned at a lower level than those who were able to establish an emotional distance.

Overall participants who received support from people outside their immediate families had lower Internal to Self and lower Internal to Parent factor scores. The earlier finding that these person-focused attributions were associated with increased psychopathology and lower Social Self Efficacy and self-esteem followed the findings by Stiffman et al. (1988), Dunn (1993) and Werner and Smith (1982), who found that access to outsiders was associated with resilience. The data gathered on the source of outside support indicated that support was generally garnered from adult friends and contemporaries, suggesting the importance of assessing the social network of children of the mentally ill. It is also noteworthy that mental health professionals were not a major source of support until later in life. This finding was similar to that of Marsh et al. (1993), who found that 80% of their sample reported that professionals were not helpful until adulthood.

The amount of information a relative of a mentally ill person possesses regarding mental illness has been suggested to be a protective factor in several studies (Brewin et al., 1991; Marsh et al., 1993; Medvene & Krauss, 1989; Terkelsen, 1987). In the present study, the results indicated that participants' subjective amount of information concerning mental illness was positively associated with the Predictability factor scores.

As noted earlier, increased Predictability factor scores were associated with lower levels of psychopathology and increased Social Self-Efficacy. Taken together, this data suggested that providing children of the mentally ill with information about mental illness may have a protective function. However, the exact information needed is uncertain at this time and requires further examination.

Limitations

There were several limitations of this study, including instrumentation, sample, and data analysis. They will be discussed below.

With regard to instrumentation, while the Brief Symptom Inventory, the Rosenberg Self-Esteem scale, and the Self-Efficacy Scale all have acceptable psychometric properties, there has been no formal evaluation of the ACMI-AS. While the goal of this study was not to develop a psychometrically sound attribution instrument, steps were taken to increase face validity. The ACMI-AS was based on previous researchers' attribution scales and this author's pilot study conducted to test the stems of the ACMI-AS. A limitation of this attribution scale was the lack of clear construct validity data. Without this data, the results of this study need to viewed with some caution. Similarly, the coping data gathered at each time period was based upon crude measures, which have not been tested for psychometric properties.

Several characteristics of the sample imposed additional limitations. One of the major difficulties in studying the children of the mentally ill was the lack of information concerning the demographics of this population.[3] This issue was further complicated by a lack of consensus regarding which individuals to include in this population. The small sample size and the method of obtaining the sample further limited the conclusions to these 30 individuals. There was a 37-year range between the youngest participant and the oldest. All but two of the participants were white, and 27 were female. The participants all resided in Western Massachusetts, representing a limitation due to regional considerations. Since the sample was gathered via an advertisement, a self-selecting bias may also be present within this sample. There is no way of identifying which factors led these respondents to participate in the study, since unknown numbers did not. Additionally, the length of time each participant lived with their mentally ill parent was varied, and no attempt was made to require consistency among the participants in this area. Together, these factors compromised the generalizability of the study.

A further limitation of the study was the variability among the diagnoses of the parents. Three different mental disorders were represented in this study, resulting in varied symptomatology. Limitations

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[3] This was verified by the author by contacting NIMH-the Center for Health Statistics, and U Mass Medical School, Center for Excellence.

also resulted from a lack of verification of the diagnosis of the mentally ill parent. There was no requirement for participants to provide documentation of their parent's mental illness because there was only a remote possibility that people would identify themselves as children of the mentally ill when in fact they were not (Marsh personal communication, July 1995). A further complicating factor in identifying a parent's diagnosis was the possibility that it may have changed over time due to changes in diagnostic criteria and the impressions of the treating clinician.

There was also variability in the location of the interviews which could theoretically contribute to variability in the responses. However, it is unlikely, as the participants chose the locations based on their own comfort levels.

The final limitation was the retrospective nature of the study. This methodology was used primarily as a result of limited resources and restricted access to minor children of mentally ill parents. Furthermore, legal barriers would have created a nearly insurmountable hurdle. Indeed, there is precedence for the use of retrospective methods by prior researchers of children of the mentally ill, including Marsh et al. (1993) and Dunn (1993). Additionally, Urquiza (1991) discussed many of the limitations and difficulties of interviewing minor children who experienced abuse. Urquiza suggested that while researchers gain concurrent information, they also lose a great deal due to external pressures on the child, particularly if the child continues to live with his or her parents. Urquiza further posited that interviewing adults about their traumatic childhoods often allowed them to have greater control over the interview and to utilize more mature coping mechanisms to deal with the emotions raised. However, despite such support for retrospective methods, its use here does raise some concern.

The need for the participants to recall what they believed at an earlier date raises questions regarding the reliability and validity of the memories. There is no way to determine whether the participants' memories of their parent's behaviors were accurate, or whether the memories of how they felt at the time were accurate. Furthermore, as posited by Henry et al. (1994), caution should be exercised when collecting data using a retrospective methodology because of the low level of agreement between ". . . prospective and retrospective measures of psychosocial data . . ." (p. 100). Furthermore, Palmer and Rholes (1989) had previously emphasized this concern, stating the need to measure attributions as close to

the event as possible. As a result of these concerns, it is not possible to generalize these results to minor children who are currently living with a mentally ill parent. Replication of this study would be necessary in order to establish whether its findings occur in a prospective, cross-sectional design.

Implications and Future Research

In light of the results and limitations of the present study, several areas present themselves for future research. As previously noted, research on children of the mentally ill has focused primarily on issues of psychopathology among the children. There are only a handful of studies that focused on the children's perspective on their parent's symptomatic behavior (Beardslee & Podorefsky, 1988; Sherer et al. 1996). The present study, which used an attributional framework, suggested that attributions appeared to change over time and were associated with differing levels of current functioning. Therefore, further use of an attributional framework is suggested for future research.

The results of this study further suggested a relationship between attributions and resiliency. The results were consistent with previous research, which suggested that person-focused attributions were associated with increased hostility and problems in family functioning. The present research expanded on this finding and suggested that there was a further association between these person-oriented attributions and psychopathology, self-esteem and self-efficacy. However, the directionality was not definitive with respect to the causation in this study. Therefore longitudinal or prospective studies may be better able to isolate the directionality of the effect.

Of particular import is the study's finding that maturity and time alone did not account for all of the changes in causal beliefs. Social support and information about mental illness were significant factors as well. This finding emphasized the necessity for professionals who work with the children of the mentally ill to assess extra-familial relationships and to provide a strong psycho-educational component to treatment. It is also apparent from the data that mental health professionals were not a significant source of support until later in the participants' lives. This finding may reflect a lack of attention by psychiatric hospitals on establishing whether or not their patients have children (Nicholson, 1994). The results of the present study suggested that mental health professionals should take the opportunity to address the children's needs when

a parent is hospitalized. An area of further research would be to assess the attributions of children at the time their parent is hospitalized as part of the hospital intake process.

Finally, the ACMI-AS was first introduced and used by this author in the present dissertation and preliminary pilot study (Bourke, 1996). Therefore, it has not been thoroughly examined for its psychometric properties. Consequently, future research in this area should include an investigation of the reliability and validity of this scale.

APPENDIX A

ADVERTISEMENT FOR PARTICIPANTS

Adult Children of the Mentally Ill:
A University of Massachusetts at Amherst researcher is seeking volunteers to participate in a study concerning the experiences of growing up with a mentally ill parent. Participants will be compensated for their time. For more information, please call Andrew Bourke, LICSW at 413-585-8678 or e-mail at abourke@educ.umass.edu

APPENDIX B

PARENTAL SYMPTOMATIC BEHAVIORS ENDORSED BY PARTICIPANTS

Symptoms	Frequency	Prevalence
Peculiar behavior	25	83%
Withdrawal from social activity	23	77%
Odd beliefs -believing things that were untrue	23	77%
Excessively Talkative	23	77%
Lethargy -lack of interest in life activities	22	73%
Disorganized speech (incoherent/frequent derailment)	21	70%
Insomnia - hardly slept	21	70%
Abusive Language	20	67%
Grandiose ideas	18	60%
Restlessness - jumpy	18	60%
Over activity	18	60%
Self-Neglect	17	57%
Suspicious	17	57%
Jealousness	16	53%
Cried easily	16	53%
Violent behavior	16	53%
Threatening behavior	15	50%
Talked about suicide	12	40%
Excessive weight gain	11	37%
Hallucinated -saw things or people who were not there	10	33%
Attempted suicide	10	33%
Heard voices	9	30%
Slept excessively	9	30%
Threatened suicide	9	30%
Excessive weight loss	8	27%
Committed suicide	1	3%
Sexually Abusive	1	3%
Histrionic	1	3%
Indecisive	1	3%
Asked for help in committing suicide	1	3%

APPENDIX C

VOLUNTARY CONSENT FORM

Adult Children of the Mentally Ill: A Retrospective Study

Consent for Voluntary Participation

I volunteer to participate in this study and understand that:

1. This is a study concerning adults who grew up with a mentally ill parent. It is being conducted by Andrew Bourke, a doctoral student at the University of Massachusetts at Amherst. Andrew Bourke is conducting this research under the supervision of his advisor, Dr. Robert Colbert.

2. The purpose of this study is to increase our knowledge concerning the experiences of children who grew up with mentally ill parents.

3. This study involves both qualitative questions in the form of an interview, and quantitative questions.

4. Additional scales will be used to assess my current functioning.

5. The interview will be tape recorded to facilitate analysis of the data.

6. My name will not be used during any discussion of the project with persons outside of Andrew Bourke's advisor. The only exception would be in the case where a participant proves to be at clear and immediate risk of harming him/herself or others.

7. The information collected from this study will be included in Andrew Bourke's dissertation, and may be incorporated in manuscripts submitted to professional journals for publication. The small sample size of this study increases the risk of subjects being identified; however, efforts will be made to minimize this risk and to protect subjects anonymity through the use of pseudonyms and the alteration of identifying information.

8. As compensation for my participation in this study I will receive a gift certificate subject to participation in the study.

9. The subject of this study can be highly emotional, and I have the right to withdraw from part or all of this study without prejudice at any time.

10. I can request a list of counseling resources, from Andrew Bourke, that I can use if the need arises as a result of emotions brought up during the interview.

_____ _____

Researcher's Signature Date Participant's Signature Date

APPENDIX D

ADULT CHILDREN OF THE MENTALLY ILL-ATTRIBUTION SCALE

ACMI-AS T0 -T3

	Strongly Disagree		Disagree		Agree		Strongly Agree
1. I believed my (father/mother) behaved in these ways because (he/she) was mean, lazy, impulsive, etc.	1	2	3	4	5	6	7
2. I believed my (father's/mother's) problematic behaviors, thoughts or feelings were caused by a disease or illness.	1	2	3	4	5	6	7
3. I believed my (father's/mother's) problematic behaviors, thoughts, or feelings were caused by an external event or occurrence.	1	2	3	4	5	6	7
4. I believed my (father/mother) could control (his/her) problematic behaviors, thoughts or feelings if he/she really wanted to.	1	2	3	4	5	6	7
5. I believed my (father/mother) could have snapped out of it if (he/she) really wanted to.	1	2	3	4	5	6	7
6. I always knew when my (father/mother) was going to behave in these ways.	1	2	3	4	5	6	7
7. I believed I could control my (father's/mother's) problematic behaviors, thoughts or feelings by my own actions, by my acting in a certain manner.	1	2	3	4	5	6	7
8. I believed my (father's/mother's) problematic behaviors, thoughts or feelings were deliberate.	1	2	3	4	5	6	7
9. I believed my (father's/mother's) problematic behaviors were unpredictable.	1	2	3	4	5	6	7
10. I blamed myself for, or thought I caused, my (father's/mother's) problematic behaviors, thoughts or feelings.	1	2	3	4	5	6	7

ACMI-AS T= present

	Strongly Disagree		Disagree		Agree		Strongly Agree
1. I believe my (father/mother) behaved in these ways because (he/she) was mean, lazy, impulsive, etc.	1	2	3	4	5	6	7
2. I believe my (father's/mother's) problematic behaviors, thoughts or feelings were caused by a disease or illness.	1	2	3	4	5	6	7
3. I believe my (father's/mother's) problematic behaviors, thoughts or feelings were caused by an external event or occurrence.	1	2	3	4	5	6	7
4. I believe my (father/mother) could control (his/her) problematic behaviors, thoughts or feelings if he/she really wanted to.	1	2	3	4	5	6	7
5. I believe my (father/mother) could have snapped out of it if (he/she) really wanted to.	1	2	3	4	5	6	7
6. I believe I always knew when my (father/mother) was going to behave in these ways.	1	2	3	4	5	6	7
7. I believe I could control my (father's/mother's) problematic behaviors, thoughts or feelings by my own actions, by my acting in a certain manner.	1	2	3	4	5	6	7
8. I believe my (father's/mother's) problematic behaviors, thoughts or feelings were deliberate.	1	2	3	4	5	6	7
9. I believe my (father's/mother's) problematic behaviors were unpredictable.	1	2	3	4	5	6	7
10. I blame myself for, or think I caused, my (father's/mother's) problematic behaviors, thoughts or feelings.	1	2	3	4	5	6	7

APPENDIX E

INTERVIEW SCHEDULE

Date of Interview: _____

Diagnosis of Parent Reported during phone screening: _____
Parent Mentally Ill: ___ Father ____ Mother

Date of Birth: _____ Age: _____ Yr/Mo Sex: ☐ Male ☐ Female

Race: ☐ White ☐ African American ☐ Asian
☐ Native American ☐ Latino ☐ Other _____

Highest Level of Schooling Achieved: ☐ less than HS diploma ☐ HS diploma/GED
☐ Vocational Training ☐ Associate's Degree ☐ Enrolled in College ☐ Bachelor's Degree ☐ Graduate Degree

Socio Economic Class as a Child: ☐ lower ☐ middle class ☐ upper class

Present Socio Economic Class: ☐ lower ☐ middle class ☐ upper class

Present Occupation: _____

Marital Status: ☐ single ☐ married ☐ partnered ☐ divorced ☐ widowed

FAMILY COMPOSITION:

	Living	Age	Your age when died	Mentally ill	Sex
Mother	Y N			Y N	
Father	Y N			Y N	
Sib Subj	Y N			Y N	M F
Sib Subj	Y N			Y N	M F
Sib Subj	Y N			Y N	M F
Sib Subj	Y N			Y N	M F
Sib Subj	Y N			Y N	M F
Sib Subj	Y N			Y N	M F

Proportion Mentally Ill (parents): _____
Proportion Mentally Ill (total): _____

Did you spend any part of your childhood living in a home other than your own, with your mentally ill parent? ☐ yes ☐ no

If Yes: between what ages? ___-___ , Total time in months? ____
or, Sporadic ___

Where did you live during this time?
_ Relatives _ Friends _Foster Care _ Other: _____

Introduction Questions:

1. How old were you when you first realized that your parent was mentally ill or behaving in a problematic way?

2. What were the circumstances in which you first realized your parent was mentally ill or behaving in a problematic way?

3. Were there certain behaviors that were more upsetting? If so, which were they and why?

4. How old were you when your parent was diagnosed with a mental illness? What were the circumstances surrounding the diagnosis? (Emergency Hospitalization etc.)

Preliminary questions to introduce each time period:

I'd like you to take a moment and think back to when you were ___.

-where were you living

-who was living with you

-were you in school, which one.

-if applicable did you have any boyfriends or girlfriends.

1. When you were this age (or presently), and your parent behaved in these ways, what were/are your beliefs about why your parent was behaving (behaves) like this?

2. Why did/do you hold these beliefs?

3. (T 1-P) For the start of each new time period: Ask: How, if at all, did your beliefs about your parent's behaviors change? What were your new beliefs about the cause of your parent's behavior. What led to the change?

Schooling

1. During this period, how, if at all, was your schooling impacted by your parent's behavior/mental illness?

2. During this period how were your grades in school?
   1) Poor - F's and D's
   2) Fair - D's and C's
   3) Good - C's and B's
   4) Excellent - B's and A's

Peer Interaction

1. During this period, on a scale of 1-3 (recite scale) about how many friends did you have?

    1) I didn't have any friends
    2) I had a few friends
    3) I had a lot of friends

2. During this period, what if anything did you tell your peers about your parent's problematic behaviors/mental illness?

3. During this period, how, if at all, did your parent's behavior/mental illness impact your relationship with other children/peers.

Social Support

1. During this period were there any people out side your immediate family who gave you support around dealing with your mentally ill parent?
___ Yes ___ No

2. If Yes, Who? (If more than one: Who gave you the most support?)
   1) Contemporary Friend
   2) Adult Friend
   3) Teacher
   4) Relative
   5) Clergy
   6) Mental Health Professional
   7) Other

3. What kind of support did they offer? (Qualitative)

Delinquency

1. During this period, did you get into trouble at school?
____ Yes ___ No ____N/A

If Yes, what kind of trouble did you most frequently get into?

1) Talking back to the teacher
2) often lost temper
3) often blamed others for misbehaving
4) easily annoyed
5) often angry
6) other ____

2. During this period, did you get into trouble with the law ?
____ Yes ____ No

If yes, what kind of trouble did you get into?

1) physical fights
2)destroyed property
3) stole items
4) truant from school
5)ran away from home
6) other _____

Drug/Alcohol Abuse

1. During this period did you use drugs or alcohol? ___Yes ____ No	
2. If yes, How many times per week? 1) Less than once 2) one time per week 3) 1 to 3 times per week 4) 3 to 5 times per week 5) more than 5 times per week	
3. During this period were you involved in treatment for alcohol or drug abuse? ___Yes _____ No	

Family-Quantitative

During this period, how did your family get along with one another?

1) We had problems in our family most or all of the time.
2) We had problems in our family some of the time.
3) We had problems in our family a little of the time.
4) We rarely or never had problems in our family.
99) I did not live with my family During this period.

During this period, how did you get along with your mother During this period?

1) We had problems most or all of the time.
2) We had problems a some of the time.
3) We had problems a little of the time.
4) We rarely or never had any problems.
99) We rarely or never saw each other.

During this period, how did you get along with your father During this period?

1) We had problems most or all of the time.
2) We had problems a some of the time.
3) We had problems a little of the time.
4) We rarely or never had any problems.
99) We rarely or never saw each other.

During this period, what, if anything, did your non-mentally ill parent tell you about your mentally ill parent's behavior?

During this period, what, if anything, did your mentally ill parent tell you about his/her mental illness/problematic behavior?

During this period, what if anything, did your siblings tell you about your parent's mental illness and problematic behavior?

Amount of information about mental illness

1. How much did you know about mental illness during this period?
   1) Nothing
   2) A Small Amount
   3) A Fair Amount
   4) A Great Deal

2. During this period, who or what was your source(s) of information about mental illness? And which was your primary source?
   1) Mentally ill Parent
   2) Non-Mentally ill Parent
   3) Sibling
   4) Relative
   5) Friend
   6) Clergy
   7) Teacher
   8) Mental Health Professional
   9) Books or other literature
   10) No one or Nothing

Coping:

1. During this period, how did you cope/deal with your parent's problematic behavior/mental illness? What has been helpful what has not been helpful?	
2. During this period were you involved in any mental health treatment?: counseling, medication, hospitalization? ____Yes ____ No	
3. If Yes, 1) counseling 2) hospitalization 3) medication 4) counseling and medication	
4. During this period were you diagnosed with a mental illness? _____Yes _____No	
5. If Yes, which one? 1) Depression 2) M/D 3) Psychosis 4) Behavior Problems 5) Anxiety 6) Adjustment Disorder 7) Other_____	

APPENDIX F

ACMI-AS INTERCORRELATIONS BY TIME PERIOD

ACMI-AS Stem Correlations: Time = 0 (n=30)

	Stem 01	Stem 02	Stem 03	Stem 04	Stem 05	Stem 06	Stem 07	Stem 08	Stem 09	Stem 10
01		-.357 (p=.053)	-.188 (p=.320)	.406 (p=.026)	.514 (p=.004)	.102 (p=.591)	.031 (p=.870)	.577 (p=.001)	-.057 (p.761)	.310 (p=.095)
02			-.113 (p=.551)	-.142 (p=.454)	-.222 (p=.237)	.317 (p=.087)	-.121 (p=.522)	-.544 (p=.002)	-.244 (p=.193)	-.293 (p=.116)
03				.352 (p=.056)	.386 (p=.035)	.126 (p=.506)	.076 (p=.688)	.030 (p=.872)	.197 (p=.296)	.192 p=.308)
04					.883 (p=.000)	-.028 (p=.881)	.130 (p=.492)	.542 (p=.002)	-.118 (p=.534)	.429 (p=.018)
05						.120 (p=.526)	.163 (p=.388)	.673 (p=.000)	-.067 (p=.724)	.496 (p=.005)
06							.217 (p=.248)	-.141 (p=.455)	-.106 (p=.577)	-.006 (p=.975)
07								.313 (p=.092)	.116 (p=.540)	.548 (p=.002)
08									.256 (p=.173)	.601 (p=.000)
09										.126 (p=.507)
10										

ACMI-AS Stem Correlations Time=1 (n=29)

	Stem 01	Stem 02	Stem 03	Stem 04	Stem 05	Stem 06	Stem 07	Stem 08	Stem 09	Stem 10
01		-.312 (p=.098)	-.133 (p=.489)	.501 (p=.006)	.741 (p=.000)	-.116 (p=.547)	-.231 (p=.227)	.427 (p=.021)	.115 (p=.552)	.103 (p=.593)
02			.056 (p=.772)	-.432 (p=.019)	-.442 (p=.016)	.239 (p=.212)	-.112 (p=.560)	-.546 (p=.002)	-.1915 (p=.320)	-.576 (.001)
03				-.024 (p=.624)	-.060 (p=.756)	.241 (p=.206)	.240 (p=.210)	.004 (p=.983)	-.151 (p=.433)	.098 (p=.610)
04					.771 (p=.000)	-.276 (p=.147)	-.192 (p=.318)	.452 (p=.014)	-.022 (p=.909)	.189 (p=.325)
05						-.075 (p=.696)	-.159 (p=.410)	.693 (p=.000)	.057 (p=.768)	.269 (p=.158)
06							.355 (p=.058)	.129 (p=.504)	-.439 (p=.017)	.013 (p=.944)
07								.187 (p=.330)	.124 (p=.521)	.404 (p=.030)
08									.107 (p=.581)	.428 (p=.020)
09										.119 (p=.537)
10										

ACMI-AS Stem Correlations Time=2 (n=24)

	Stem 01	Stem 02	Stem 03	Stem 04	Stem 05	Stem 06	Stem 07	Stem 08	Stem 09	Stem 10
01		-.587 (p=.003)	-.008 (p=.971)	.711 (p=.000)	.657 (p=.000)	-.215 (p=.313)	.234 (p=.269)	.811 (p=.000)	.1445 (p=.501)	.259 (p=.220)
02			-.305 (p=.147)	-.542 (p=.006)	-.617 (p=.001)	.312 (p=.137)	-.277 (p=.189)	-.742 (p=.000)	-.036 (p=.867)	-.281 (p=.183)
03				.157 (.462)	.090 (p=.673)	.022 (p=.917)	.104 (p=.628)	-.083 (p=.700)	-.132 (p=.537)	.213 (p=.317)
04					.829 (p=.000)	-.102 (p=.635)	.201 (p=.345)	.713 (p=.000)	.039 (p=.856)	.284 (p=.179)
05						-.191 (p=.371)	.381 (p=.066)	.822 (p=.000)	.013 (p=.950)	.459 (p=.024)
06							-.050 (p=.814)	-.274 (p=.194)	-.594 (p=.002)	-.327 (p=.118)
07								.306 (p=.145)	.182 (p=.394)	.679 (p=.000)
08									.096 (p=.655)	.394 (p=.056)
09										.103 (p=.631)
10										

ACMI-AS Stem Correlations Time=3 (n=11)

	Stem 01	Stem 02	Stem 03	Stem 04	Stem 05	Stem 06	Stem 07	Stem 08	Stem 09	Stem 10
01		-.579 (p=.062)	-.117 (p=.730)	.522 (p=.099)	.069 (p=.839)	.378 (p=.251)	.171 (p=.614)	.791 (p=.004)	-.019 (p=.956)	.281 (p=.402)
02			-.248 (p=.462)	-.705 (p=.015)	-.383 (p=.244)	-.359 (p=.277)	-.106 (p=.756)	-.249 (p=.460)	.373 (p=.257)	-.287 (p=.392)
03				.215 (p=.525)	.593 (p=.054)	-.105 (p=.759)	.3391 (p=.308)	-.1616 (p=.635)	-.365 (p=.269)	.2863 (p=.393)
04					.632 (p=.037)	.185 (p=.587)	.594 (p=.054)	.569 (p=.068)	-.096 (p=.779)	.748 (p=.008)
05						-.200 (p=.555)	.3769 (p=.253)	.191 (p=.574)	.042 (p=.902)	.507 (p=.111)
06							-.3642 (p=.271)	.135 (p=.692)	-.790 (p=.004)	-.316 (p=.344)
07								.368 (p=.265)	.295 (p=.378)	.964 (p=.000)
08									.283 (p=.400)	.444 (p=.171)
09										.302 (p=.367)
10										

ACMI-AS Stem Correlations Time=Present (n=30)

	Stem 01	Stem 02	Stem 03	Stem 04	Stem 05	Stem 06	Stem 07	Stem 08	Stem 09	Stem 10
01		-.027 (p=.887)	-.123 (p=.518)	.367 (p=.046)	.533 (p=.002)	-.332 (p=.073)	.091 (p=.631)	.549 (p=.002)	.0390 (p=.838)	.3683 (p=.045)
02			-.314 (p=.091)	-.284 (p=.129)	.052 (p=.787)	.081 (p=.672)	-.006 (p=.977)	-.030 (p=.875)	-.091 (p=.634)	.037 (p=.846)
03				.199 (.292)	-.031 (p=.871)	-.031 (p=.583)	.243 (p=.195)	.230 (p=.222)	-.016 (p=.933)	.036 (p=.851)
04					.497 (p=.005)	.000 (p=1.0)	-.040 (p=.833)	.579 (p=.001)	.102 (p=.592)	.173 (p=.362)
05						-.245 (p=.191)	-.010 (p=.956)	.568 (p=.001)	.015 (p=.938)	.302 (p=.105)
06							.0639 (p=.741)	-.039 (p=.839)	-.289 (p=.122)	-.107 (p=.575)
07								.129 (p=.498)	.313 (p=.092)	.475 (p=.008)
08									.165 (p=.383)	.383 (p=.037)
09										.2506 (p=.182)
10										

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